An Address

ON

DISEASES OF THE ORIFICES OF THE BODY.

WITH REMARKS ON LATENCY IN DISEASE AND OVERLOOKED INFECTIONS.

DELIVERED BEFORE THE TOTTENHAM DIVISION OF THE BRITISH MEDICAL ASSOCIATION.

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FROM time to time every clinician is confronted with cases suffering from some atypical complaint, or one the origin and explanation of which baffles all attempts to elucidate. Often, unfortunately, such cases end in an autopsy, and then one of two verdicts is usually arrived at: (1) A negative one, *no satisfactory or sufficient cause found;* or (2) some simple explanation is forthcoming, and this in the vast majority of cases is an overlooked infection of some one or more of the various small accessory sinuses of the mouth, nose, or ear, etc.—that is, some cul-de-sac of the gastro-intestinal or genito-urinary tracts; *invariably one of the mucous surfaces of the body* is at the root of the evil. Further, the infection in the vast preponderance of cases consists of one of the group of cocci, generally the streptococci[1] and staphylococci,[2] very often the pneumococci,[3 4] not infrequently the gonococci.[4]

When we remember that in the majority of cases *post-mortem* examinations are incomplete, often necessarily so, and that, consequently, such anatomical structures and situations as the whole of the nasal accessory sinuses, the lacrymal duct and sac, portions or the whole of the urethra and prostate in the male, the vulva and urethra in the female, the middle ear, and even the tonsils, may be entirely overlooked, or examined in a perfunctory manner; when, in addition, we remember that many septic infections of mucous membranes leave only slight evidence in death, and this often equivocal, and easily confounded with vascular *post-mortem* changes, we cannot be surprised that, in the search for causes of disease, many of the perplexing clinical cases are equally baffling *post-mortem* subjects, and the verdict, "No cause found," so frequently results.

When we recall how long and completely overlooked in *post-mortem* investigations, even when conducted by skilled pathologists, was the rôle of the appendix, we should not be surprised at the overlooking of a septic follicle of the tonsil, an empyema of the antrum, an alveolar abscess, or a quiescent urethral and bladder infection, as the origin of a train of symptoms which culminated in the death of the patient.

The severe diarrhoea of infants practically leaves no trace in the intestine—at the most a small amount of injection of the ridges of the mucosa, visible and of value only to the pathologist alive to and in search of such evidence, and then *really* valuable only when associated with the clinical history—yet there can be no question of the vast mortality directly due to entero-colitis in infants,[5] nor of the profound effects of entero-colitis upon the growth and development of children. Herter[6] describes physical deterioration of a marked type which he calls *infantilism associated with intestinal disorders.* Stricture of the urethra, with its well-marked clinical manifestations and grave consequences, leaves very little evidence *post mortem.*

In dealing with this question of *disease*, one deals with it broadly; each and all of us succeeds in diagnosing a typical appendicitis, typhoid or tuberculous lesion, but it is the thousand and one illnesses which we cannot label, and the many small lesions which precede the invasion of the body by such master bacilli as the typhoid and tubercle bacillus, and which perform the pathological spade work whereby such well-defined bacteria are *able* to invade the body and successfully thrive in its organs and tissues.

Do we diagnose these? The why and the wherefore of the onset of disease? There can be no doubt *multiple* blood infections produce graver lesions and more rapid multiplication of bacteria.[7]

Immediately attention was directed to appendix diseases all and sundry *perceived* its importance and frequency, and the rôle it played in hitherto obscure or anomalous abdominal lesions. Similarly, when the fact is widely recognized that the small mucous membrane diverticula are the source of a great number of obscure illnesses and pathological processes,[8] the state of the oral, nasal, genito-urinary passages, etc., will be more closely examined, and the explanation of many clinical puzzles elucidated.

Post-mortem findings being so often ineffectual in explaining certain types of illnesses, partly because they leave so little evidence, we have to rely for our proofs of the justness of the statements about to be formulated *upon the successful result of treatment in life*, and this, in my opinion, is the best of all proofs, granted such results are consistent and invariable, not sporadic.

Sir Clifford Allbutt, in referring to this type of proof, says:

> The chief therapeutic knowledge is empirical but it must be of the best kind—namely, that of experience.[9]

In dealing with my subject I would do so in the spirit which holds when, in referring to finance, we say: "Take care of the pennies, the pounds will take care of themselves." The diseases I particularly wish to direct attention to form the pennies of ill health, the typhoids and tuberculoses the pounds.

As I hope to adduce evidence—to me conclusive—in support of the statements made, I will immediately formulate certain *axioms*[10] which I have found to stand the test of investigation, of treatment, and time.

1. That the vast majority of "everyday" pathological processes are the result of, that is, are due to or secondary to, *diseased orifices.*

2. That all orifices are concerned, but the important ones are (*a*) the mouth and nose, (*b*) the urethra, (*c*) the vulva.

3. That the bacteria chiefly concerned are the *cocci*, and their rôle is threefold.

> (*a*) They give rise directly to disease—that is, they are specific—and the processes set up by them may broadly be called the "septic processes."
>
> (*b* They so break down the resistance of the body, both locally and generally, that other pathogenic bacteria are enabled thereby to invade successfully the organs and structures of the body.
>
> (*c*) They co-operate with and increase the destruction and toxaemia due to other bacteria.

4. That an enormous number of the diseases which *make themselves manifest* in adolescence and adult life originated—that is, commenced—during infancy.[6 27]

5. While I see very little evidence in favour of the heredity of disease, I am firmly convinced that some of the graver diseases are *congenital*;[11 13] that is, the fetus is inoculated viâ the placenta—antenatal infection. Also that if the mother is the subject of these orificial septic processes the toxaemia must profoundly affect the well-being of the fetus *in utero*.[13 14]

6. That repeated small infections and intoxications—that is, repeated doses of bacteria or their toxins, taking place over an indefinite period of time, while each infection may be, and usually is, ineffective in producing a definite set of symptoms, and thus calling attention to what is taking place—*ultimately* give rise to pronounced and violent disorders, polymorphic in their manifestations, often culminating in virulent septico-pyaemia.

> Rabbits need a large dose of meningococci to kill them: if instead of one large dose smaller doses of meningococci are given at hourly intervals, a much smaller total amount of culture suffices to kill the animals, and this method brings about death with greater regularity.[15]

7. That a large number of *symptoms* are set up in distant parts of the body by toxins developed in some overlooked local nidus of disease,[16] and that these symptoms are designated by definite names, leading the unwary to assume that they are definite entities, definite diseases in themselves, primary in origin, and not what in reality they are—*secondary symptoms.*

8. That orifice disease amongst the poorer classes is universal, and exceedingly frequent in the upper spheres of society, *if properly sought for.*

Thus, as a direct result of septic processes taking place in the mouth, nose and nasal sinuses, the urethra or bladder or elsewhere, certain consequences arise:

1. The local process serves as a pathological laboratory where germs are generated, usually very pathogenic to the host, which are thence *conveyed in various ways to and infect other parts of the body.*

These methods are:

(*a*) *By Direct Continuity of Surface* (designated by Bond[17] as mucous streams). In this manner the whole gastro-intestinal tract and the glands opening into it becomes infected from the oral, nasal, and auditory suppurative processes. Similarly, from the vulva or urethra the whole genito-urinary apparatus may be infected.[18]

(*b*) *By Indirect Extension through the Lymphatic System*, so that, for example, a septic tonsil or gum may infect the lymphatics of the neck, then those of the thorax, and they in their turn involve the lung and pleura (or the thyroid in the neck). The resulting inflammatory process, by its intensity or magnitude or the pain and other symptoms it produces, cannot be ignored, and is thus looked upon as *the* disease, whereas the primary source of infection is usually overlooked.[3 19]

(*c*) *Blood Infection.*—As a result of cervical lymphatic implication the germs may be poured into the innominate vein and thus circulate in the blood—*Bacteriaemia*. Evidence of the constant implication of the thoracic duct and its rôle in infecting the blood stream as a result of gastro-intestinal and abdominal infective processes is so strong as to defy criticism.

Probably this route is the usual one taken by the tubercle bacillus.

In rare instances the blood stream may be directly involved by implication of blood vessels at the local nidus.

(*d*) The foregoing are anatomically easy to trace, but other equally well marked sequelae are less easy to follow, yet clinically demonstrable; such are the development of optic neuritis from empyema of the frontal and other sinuses,[19] or the mode of spread of bacteria from the middle ear into the centre of a cerebral hemisphere and the cranial complications of many latent processes of the naso-pharynx.[1 2]

The perineural and perivascular lymphatics are the probable agents. As all acute processes which hitherto have been regarded as strictly local diseases—pneumonia, typhoid, scarlet fever, etc.—are now known to be accompanied by blood infection (that is, a septicaemia), so in all probability chronic processes[20] give rise to mild blood infection; consequently we may fairly assume such a mild infection of the blood stream takes place in all these "orifice" diseases—in other words there is a *mild chronic septicaemia*—and granted a suitable opportunity, these circulating germs produce septic thrombosis, emboli, abscess formation, etc.; otherwise, how else does one explain the onset of acute osteo-myelitis, and many other inflammatory and gangrenous processes in the deep tissues of the body, or certain gonococcal[21 22] and pneumonic[23] visceral lesions?

2. *The Second Consequence: Toxaemia.*—From the pathological laboratory, situated in the gums, conjunctiva,[15] prostatic follicle, middle ear, and so on, chemical products—that is, *toxins*—are absorbed, which circulate by the lymph and blood streams through the body, *and damage or tend to damage all the cells and structures of the body*—brain, nerve, viscera, vessels, etc.

Such parts as joints, bursae, tendons, and muscular attachments, which are peculiarly exposed to trauma, climatic influences, or intermittent congestion from prolonged use, have an uphill fight to maintain their usual health against the combined assault of this prolonged toxaemia and trauma. Gradually they lose that reserve of vitality inherent in all structures, till suddenly a more severe trauma,* or an exacerbation in the local infective process in the gum (or wherever situated), or its extension to a new area, takes place, resulting in an increased amount of or a more powerful toxin reaching the joint or tendon, etc., which upsets the now unstable equilibrium, and produces an *inflammation*, designated an arthritis, a tendo-synovitis, and so on; this by its pain, loss of power of movement, or other prominent reason, again obtrudes itself to such a degree as to be looked upon as a primary affection, *the* disease, and so treated, to the total neglect of *the primary disease*, of which this is but a symptom.

One cannot wonder at the want of success which invariably follows treatment directed *solely* to these secondary manifestations, and the relapses which invariably take place under such a régime.

Having briefly outlined the rôle of sepsis of the orifices, one must take cognizance of the important part which the mere passage of time plays in developing the *symptomatology*, that is, in converting a latent process into one with definite objective or *revealing manifestations*. (I do not refer to incubation period after an infection has arisen)

As an example, take the formation of gall stones, a symptom of gall bladder and bile duct catarrh.[24 25]

The pathogenesis of gall stones is variously put by different writers; all, however, are agreed (with one exception—Boysen, of Copenhagen) that either bacterial or toxic infection of the mucosa of the bile passages is the underlying cause.

Some assume the bacterial invasion is directly from the duodenum, along the common bile duct, and as a result of the catarrh induced deposits occur in inspissated mucus, bile, or a small blood clot, of bile pigment, salts and cholesterin.

Others state that the germs and toxins generated in the gastro-intestinal tract are conveyed by the portal vein to the liver; and still a third say "that germs or toxins generated in *any* part of the body circulate in the blood stream, and are conveyed to the liver by the hepatic artery.

Assuming all views to be correct, catarrh and inspissation are the immediate precursors of gall stones.[25]

How long does it take to produce a fair sized gall stone? In my view years.

For the sake of illustration consider tartar, a similar type of deposit on and around teeth, and much conduced to by irregular or overcrowded teeth.

There are many elderly persons who have never cleansed their teeth and who have marked deposits of tartar. If a dental surgeon scaled and collected the tartar of such a patient and moulded it into a mass, it would form but a small sized gall stone, yet it has taken many years to collect.

Granted many *pros* and *cons* in the argument, still one must confess that to produce a gall stone of any size years are likely to elapse.

We know that catarrhal jaundice is common in infants and that gastro-intestinal disorders are amongst the commonest diseases of childhood,[5 6 26] and whichever view of the genesis of gall stones we accept, the fact remains that the conditions which lead to cholelithiasis begin in infancy.

Yet gall stone symptoms are rare in infancy, but we know they do occur, and with increasing knowledge and earlier exploratory examinations, they are discovered to be more common in adolescence than we were taught.

Also, although *operation may be deferred* many years the *symptoms* of gall stones have existed in many cases from youth, and that a small minority only of cases whose gall bladders contain stones are operated upon.

In the evolution of a stricture of the urethra, the evidence is very strong that the vast majority of strictures take years to develop, *certainly to produce symptoms*, which is the point I am emphasizing.

Vulvo-vaginitis[28] in childhood is comparatively common. Personally I have seen 10 cases of gonorrhoeal vulvitis in girls under 12 years of age, and very frequently infants in arms show vulval inflammations,[29] but, the acute symptoms over, parents take no further trouble or interest, yet in many instances the condition lies latent, only to light up under the stress of ill-health or marriage, and proclaim itself by extension into the urethra or bladder, or on the other hand by producing a pyosalpinx or other grave pelvic lesion.[28] *It is more than probable the ill-health, etc., only reveals an extension which has gone on from the first.*

Darling[3] says 92 per cent. of patients dying of pneumonia have nasal sinusitis of *older origin*.

Fish[1] quotes "that of the cases of measles and scarlet fever who die, *the majority have empyema of the antrum of Highmore*"; amongst those who survive surely there are many who have similar infections, and it can hardly be wondered that such develop tuberculosis, cerebro-spinal meningitis, diphtheria, or succumb to any stray infection they encounter, or similarly that at the puerperium many years later such mothers should easily become "septic."

Weichselbaum[1] found in 13 influenza autopsies an empyema of one or more of the sinuses in 12 cases. The thirteenth was not examined.

One of the best examples of latency is afforded by abscess of the brain, which may be associated with an otitis media, etc., of ten to twenty years' duration without marked objective symptoms until a sudden attack of coma reveals its presence or ends the patient's existence. Cases of this kind all surgeons have seen.

An unusual example is that in which an infant pushed a piece of slate pencil into its nose; some eight years elapse, during which the child had on two occasions a couple of fits; suddenly, however, it became gravely ill, comatose, and died. *Post mortem* a large frontal abscess was found—the point of the piece of pencil had worked its way through the ethmoid and projected into the cranium.

The presence of hitherto undiscovered sepsis as a cause of obscure diseases is, in my experience, common, and explains many cases of goitre, neuritis, arthritis, so-called heart disease, general ill-health, and hysterias.

* This explanation of sudden illness must be constantly borne in mind in dealing with workmen's compensation cases.

In fact, when we are called to sudden cases of grave illness, and find what is called a typical textbook case, we are apt to forget that in the vast preponderance of cases we are viewing the *terminal phase* of a chronic infective process,[27] and in ignoring this fact and the influence of time we fail to go sufficiently far back into history, or sufficiently minutely into the small beginnings of disease, without which we are unable to elucidate the natural history of the case and make an accurate diagnosis.

I wish to refer particularly to oral sepsis, because it is so easy to observe—also to a lesser degree to urinary sepsis, which is also comparatively easy to demonstrate—that is, they need no special apparatus or skill.

The prevalence of oral sepsis in the form of (1) stumps and caries of teeth, (2) gingivitis, (3) alveolar abscess or sinus, (4) ulceration of the gums, cheek, and tongue, (5) infected salivary ducts, has been amply demonstrated in my hospital practice. Since 1905 I have examined over 5,000 new cases, and amongst these I have found *10 cases (0·02 per cent.)* who had absolutely healthy mouths at the time of examination. A number were edentulous, a sufficient proof of many years of sepsis. Amongst those seen at the Gordon Hospital for Rectal Diseases—that is, intestinal cases—I have *not found a single case quite free from sepsis* of the mouth. Of 36 sigmoid, rectal, and anal cancer cases I have dealt with, all have had definite sepsis, the majority in a grave degree, yet I am convinced this extreme degree of sepsis is quite overlooked in general.

The last eight house-surgeons at the Gordon Hospital were men from Dublin, Guy's, Charing Cross, Edinburgh, Glasgow, Birmingham, and Newcastle-on-Tyne, all men of more than average ability; five were candidates for the F.R.C.S.Eng., of which four, while in residence or soon after, obtained this diploma, two M.B.Lond., and one M.B.Glasg. With the exception of the Charing Cross man none of these residents, as they willingly confessed after a few weeks' observation, ever understood the meaning of oral sepsis. They knew of a disease called Rigg's disease, "which one saw on rare occasions, and was (in their minds) a profoundly grave condition consequently," but they never saw, *as a routine*, the lower lip pulled down, the upper raised, and the gums carefully scrutinized and squeezed; they did not appreciate the importance of tartar in the pathology of the mouth; they rarely saw dentures and plates removed from patients' mouths, and thereby observed the great frequency with which stumps of the most septic type were left in the mouth and *covered by a plate;* they did not know of the dangers of the abominable bridges of American dentistry.

Yet these residents were keen men, creditable to any school and hospital, *who had been "residents" elsewhere*, and must be accepted as good samples of the general medical attitude towards this *most obvious* of all orificial diseases.

Such also has been my experience with the residents at the Metropolitan Hospital. *They know of oral sepsis as an abstract statement, not as an actual potent factor in the causation of everyday diseases.*

With this personal experience in mind I have, nevertheless, read with great astonishment reports of discussions on colitis at various societies, also papers by physicians and surgeons of authority in London and the provinces, in which almost everything was given as a cause of colitis,[30] yet not in a single instance do I find sepsis in the mouth, ear, nose, and throat given as a primary cause of colitis and pericolitis.

Similarly, with very few exceptions, the little prominence given to sepsis as a cause of gastritis, with its many-sided symptoms (pseudo-ulcer and pseudo-carcinoma), which, in my experience, is the commonest cause of gastritis and its sequelae. In the abstract it is accepted, but in its everyday importance it is almost ignored.

Many of these cases swallow pus in quantities varying from *a few minims to* ʒss *per diem.*

Yet when this question is put to them—

> Would you be surprised that this patient should develop gastritis, entero-colitis, and appendicitis, if *for years on end* he or she visited a pathological laboratory five, ten, or fifteen times in the twenty-four hours and swallowed on each occasion a platinum loop of a streptococcic or staphylococcic culture?

I have never heard surprise expressed, or the conclusion suggested dissented from, except the old fallacy that "the gastric juice destroys bacteria," or that "one was a pure culture, the other a mixture of dead cells with fewer bacteria," which puerile arguments are unworthy of consideration.

In these grave cases of intractable constipation from colitis, pericolitis, and adhesions, in which total removal of the large bowel is advocated and successfully performed I fail to find any mention of the connexion between this advanced and serious condition and orifice sepsis, yet the author[31] of this operation calls attention to the less obvious sequelae which *result* from the intestinal disease, such as duodenal ulcer and chronic mastitis and cancer of the breast! The question of sepsis of the orifices is one of such personal importance that one may logically ask, What avail it if a patient lives in the best drained town, or in the purest atmosphere, or subsists on the best food, if his own gastro-intestinal tract reeks with pus?

I would like to draw the attention of clinicians to the pathogenesis of hepatic cirrhosis and ascites. It may be stated boldly cirrhosis of the liver is not due to alcohol alone. Branthwaite and Donkin, inspectors of inebriates' homes, state emphatically that cirrhosis of the liver is not a frequent cause of death in such institutions; and, on the other hand, almost every medical man has come across pronounced hepatic cirrhosis, with ascites, *in patients who have been lifelong total abstainers.*

The number of such cases is doubtless great, because, when patients are questioned as to their temperance or intemperance, and they deny alcoholic excess, we often disbelieve their statements, because both by tradition and teaching we associate hepatic cirrhosis *of necessity* with alcohol, and find it difficult to give up old idols.

Experiments on animals (giving alcohol to) fail to produce cirrhosis, but alcohol *combined with the ingestion of pus*—that is, the development of a gastro-intestinal infection simultaneously—does produce cirrhosis.

D'Amato,[32] as a result of experiments, suggests that hepatic cirrhosis is but a part of a lesion of the whole abdominal organs.

The *ascites of cirrhosis* is also chiefly but a symptom of toxic infection of the peritoneum, associated possibly with the venous stasis of cirrhosis. This membrane is thickened, often rough, and occasionally I have seen small polypoid excrescences on its surface when operating for ascites or other conditions.

The pathology of ascites is indeed strictly copied, and to my mind proved, by the development of a chronic hydrocele in that piece of *detached peritoneum* the tunica vaginalis, which is always the result of a past or existing epididymitis or orchitis, or the result of trauma. Here venous stasis is not brought in to explain the hydrocele.

One form of modern treatment is common to both. In hydrocele we remove a sufficient portion of the thick, badly-absorbing, or non-absorbing parietal layer of tunica vaginalis; this opens up a large number of lymphatic spaces, which suffices to remove by absorption the fluid as it is secreted. In the same way, if a certain amount of the peritoneum is removed from the back of the recti, the ascites is cured in a certain number of cases, special precautions and after-treatment being taken into account as in the Talma-Morison operation.

Insanity.—Almost without exception, all recent authorities on this subject are agreed that chronic toxic poisoning is the most important factor underlying insanity (and fortunately it is the most vulnerable of these). The keynote to this view is "that any process which produces delirium may, if sufficiently prolonged, result in insanity."[33]

Savage[34] says:

> I have long pointed out that there is no entity—insanity, at most it is a negation.

And again:

> To poisoning, in some form or other, must be attributed the general exciting cause of nearly every form of insanity.

Kraepelin says:

> There are only two external causes: (1) Exhaustion, (2) intoxication.

Where, then, is the commonest nidus such toxins are produced? That they are largely coccal in origin is highly probable and intestinal in site.[35] That puerperal mania is associated with streptococcal[36] sepsis of the uterus and parametrium is almost certain, and therefore one must conclude the ordinary septic processes are competent to excite insanity; and when we note how widely spread is genito-urinary and gastro-intestinal sepsis, one is logically forced to accept these two great systems as the commonest site whence such toxins are absorbed. Thus is established the association of insanity with orificial disease.

Uraemia.—So bound by tradition are we that even now books mention the "intestinal ulceration of uraemia"—

an example of putting the cart before the horse it is difficult to improve on. Copraemia should be substituted for uraemia—that is, an intestinal intoxication in patients with defective kidneys.

It has always appealed to me as a reasonable deduction, if any febrile condition suffices to produce "cloudy swelling" of the kidney, and an attack of scarlet fever—a streptococcal invasion of the mucosa of the naso-pharynx—can produce virulent toxins in the course of a few days, which so damage the epithelium of the kidney as to produce an acute nephritis, *that* a similar chronic coccal infection of the mouth and whole gastro-intestinal tract, acting for many years, *should* suffice to produce equally grave changes in the renal epithelium (and stroma)—a different *type* of damage, as one would expect.

If, instead of a catarrhal infection, definite ulceration of the colon takes place, how much more readily should the renal destruction proceed; but when death takes place and such ulceration is discovered *post mortem*, how fatuous to ascribe the intestinal ulceration to the uraemia!

During my tenure of office as Pathologist to Charing Cross Hospital all cases of renal disease had definite oral sepsis. Those dying of uraemia had colitis; in three of them—very severe types—there was ulcerative colitis.

If a chronic sepsis of the genito-urinary tract itself also exists in these cases—that is, not such as would by its virulence and intensity produce surgical lesions—the probability of Bright's disease accruing is enormously increased. There is no hard-and-fast line between the origins of medical and surgical renal disease; it is rather a matter of degree.

What relation sepsis of these two important tracts bears to eclampsia[18] *and other renal complications of pregnancy is worthy of the strictest investigation.*

Gonorrhoea.—We now know there is not one variety of septico-pyaemia which the gonococci cannot produce—ulcerative endocarditis, multiple abscesses of joints, peritonitis, etc.—and its rôle in cerebro-spinal meningitis is rapidly being recognized.[21] [22]

It has been obtained in pure culture in all sorts of lesions and at times long distant from the primary infection.[18]

Recently Sir Victor Horsley has called attention to the part it plays in *chronic* spinal meningitis, simulating myelitis and pressure on the cord from new growths, and amenable to operation.

This leads to a subject which has long occupied my mind, *What are Charcot's joints and the crises of tabes?*[37]

Is it possible for a moment to maintain that Charcot's joint is anything other than a toxic arthritis in a patient whose reaction to painful stimuli is reduced or *nil*, and in whom, therefore, the process has advanced before much attention is directed to it, and whose tissue (soil) is favourable to germ processes?

If the joint affection occurred in a non-tabetic patient it would be called an acute or subacute osteo-arthritis or rheumatoid arthritis (conditions almost certainly of septic toxic nature, of gastro-intestinal or genito-urinary origin); and in a like manner, in a tabetic patient, I would hasten to seek for a septic focus.

But in a tabetic we still retain the nomenclature and the mysterious factor "trophic influence" devised by Charcot, whose views were formulated in the prebacterial days, certainly before it was established that all inflammatory processes presupposed the presence of bacteria or their toxins in the inflamed part.

The experience derived from Gasserianectomy and the part played by sepsis and trauma of the conjunctiva in producing ulceration and sloughing of the cornea, previously attributed to loss of trophic function from destruction of the ophthalmic division of the fifth nerve, has done much to modify surgeons' views on trophic nerves.

Visceral Crises.—Is there ever a bladder crisis in a patient whose genito-urinary passages are absolutely free from sepsis? or a gastric crisis without mouth and gastric sepsis?

In Regard to Laryngeal Crisis: During the past two years I have seen 5 cases (3 men, 2 women), the youngest 35, the oldest 60, who were sent up as cases of oesophageal cancer or stricture. I found the symptoms of dysphagia marked in all cases, but repeated careful examination and the passage of instruments revealed no stricture. In all the cases the mouths were, and had been for years, most septic.

Three of the 5 cases (2 men, 1 woman) had their mouths made healthy by radical sacrifice of the teeth, and recovered completely, *without any other treatment than that of the dental surgeon.*

These cases were unquestionably suffering from spasm of the oesophagus.

Recently Professor A. Keith demonstrated at the Royal College of Surgeons the presence of a sphincter, first described by Sir Everard Home, situated at the level of the cricoid cartilage; and I now have no doubt the dysphagia in my cases was due to spasm of this sphincter.

If sepsis can produce such marked symptoms in the oesophagus, and also in the intestine[38] [39] (as I described in a lecture before the Harveian Society in 1903) may produce pseudo-obstruction apparently demanding laparotomy, of which cases I have notes of 18 since seen, surely it is competent to produce spasm of the larynx, especially in a patient whose nervous mechanism is imperfect.

The reflex spasm of laryngismus stridulus[40] is now attributed to post-nasal catarrh and adenoids, and is a clear indication that the septic explanation of laryngeal crises is not improbable.

Recently I was sent for to operate on a case, a man aged 60, presenting some difficulty, which was diagnosed as intestinal obstruction.

He had increasing marked abdominal pain and some distension, was sick once, and was somewhat collapsed, constipated three days, urine passed every two hours a few ounces at a time. On examination I found his bladder distended and drew off some pints of urine, which completely relieved his symptoms.

He had a small firm prostate, the obstruction from which the bladder usually overcame, but while constipated and suffering from a chill, he unduly delayed to answer the call to micturate, and his bladder became slightly distended. When he tried to pass water he failed and he had an acute retention.

After twenty-four hours the tension on the bladder became so great that, aided by voluntary effort, he was able to pass some urine and thence every two hours passed 2 to 3 oz., and he considered, therefore, the urinary trouble was at an end.

But the pain and constipation continued and he saw a doctor, and finally, on the third day, was admitted.

Had he suffered from tabes or any nerve lesion doubtless this attack would have been labelled "bladder crisis."

It may be asked, But what of female tabetics? It would help greatly to know the proportion of the various crises in the sexes; the number of female tabetics is 9.1 per cent. of the whole.[37]

However, bearing on this, let me quote a case I saw in the wards in September. She was a young woman 25 years old, admitted on the medical side as a case of appendicitis. Her history seemed to point to appendicitis without abscess, but per-rectum examination indicated severe constipation and a peculiar fullness in Douglas's pouch (?). I found she had passed no urine for twenty-four hours on one or two occasions, and a catheter drew off some 46 oz. A few enemata and purgatives brought about complete recovery.

Had she any form of nerve lesion, she would probably have been labelled a bladder crisis also.

Retention of urine in women without obvious cause is quite common, but in cases seen by me there has always existed some degree of cystitis or vulval inflammation.[27]

One could continue indefinitely multiplying examples of symptoms set up by *prolonged orifice infections;* but when one finds that, even in the conditions known as colitis and appendicitis, which lie in the direct path of infection, the medical profession as a whole ignores the presence and rôle of pus swallowed from the mouth, nose, and ear in their pathology, one feels it is rather hopeless as yet to insist that such conditions as exophthalmic goitre and Henoch's disease are due to infections such as oral sepsis, yet there is accumulating a great deal of evidence to prove this.

Unfortunately, we have heard such bad accounts of the *Bacillus coli* from the bacteriologist that we have attributed the majority of intestinal and accessory gland lesions to it, whereas all recent investigation demonstrates clearly that the *B. coli* is of infinite value to man,[41] and that it is the introduction of other bacteria, probably streptococcal (here called variously *Streptococcus faecalis*, *enterococcus*, etc.),[42] and the *B. enterococcus*, *B. infantilis*, and putrefactive organisms which should bear the brunt for initiating the diseases.

The *B. coli* is of necessity almost certain to be found in all lesions connected with the digestive tract; but is it the cause of these lesions? The difficulty lies in proving whether it is the original culprit or only accessory after the fact.

But from time to time lesions are found in the appendix[43] and elsewhere, in which pure cultures of streptococci and staphylococci are found, and, as in puerperal septic poisoning, if the investigations are carried out early the presence of streptococci is found in an uncontaminated condition,[36] while later on contamination is invariable.

Lartigan[44] in 1902 called pointed attention to the rôle of the cocci in appendicitis, and the probability of the *coli* being a secondary infection, while in young infants we know that at the height of certain severe intestinal disturbances *the B. coli are entirely replaced by the B. infantilis.*[6]

The identity of Payne and Poynton's *Diplococcus rheumaticus* with the *Streptococcus faecalis*[45] and the enterococcus is highly probable, and explains the close association between the rheumatisms—acute and chronic—and arthritism with gastro-intestinal disorders.

With regard to local conditions of the mouth, I find cracks, fissures, papillomatous conditions of the tongue, and leucoplakia are almost universally believed to be of syphilitic origin; whereas, in my hospital experience, I find these conditions in patients without the history or any confirmatory evidence of syphilis; moreover, removing the carious and jagged teeth and tartar, making the gums healthy, removing badly-fitting and rough dentures, *conditions never absent*, results in marked amelioration of the patches, etc., and *in preventing new lesions*, which to me proves their connexion with sepsis as a causal factor.

I do *not* say syphilis does not produce these lesions, but in frequency it is a minor cause.

I have seen septic ulcers of the palate, and two on the posterior wall of the pharynx, clear up entirely without any treatment other than that afforded by the dental surgeon.

Similarly, sepsis under a long or a tight foreskin, with urethral infection, leads to desquamation of the epithelium of the foreskin and glans, to acute and chronic balano-posthitis, herpes, papillomatous warts, and soft sores. In every case of cancer of the penis I have seen, a chronic balano-posthitis has always existed, and in cancer of the tongue, lip, and cheek, sepsis plays a most important part.

The association of mucous membrane infection with dermatological conditions, chronic oedema of the face, lupus erythematosus and lupus vulgaris, idiopathic (?) facial erysipelas, abscess of the lacrymal sac, I have observed in hospital and private practice.*

We would expect, if the lymphatic system takes a great part in the dissemination of bacteria and their products, to find lymphatic gland disease associated—one has but to think of the gland abscesses to note a gross confirmation of this—but there is increasing evidence that the origin of lymphocythaemia (lymphoma), possibly status lymphaticus and other obscure lesions, is connected with septic and toxic processes.

Beginning with the glandular fevers of children[26] (Ffeiffer's gland disease[48]), the connexion between these and gastro-intestinal disorders is conclusive; again, in cases of fatal lymphocythaemia in children,[49] the connexion between some of the cases and sore throats was established, and the general conclusion of the writers of one such series was "that the disease is bacterial in origin, probably streptococcal."

Further, the condition called "toxaemic infantilism"[6] widens enormously the importance of the intestinal tract and its flora in the pathology of children, and the incidence of many diseased conditions in adults, otherwise inexplicable, may be traced to similar disorders, possibly infantile in incidence.

In my experience such conditions as sciatica, neuritis, and lumbago are due to arthritis of the hip, sacro-iliac and spine, etc., joints, or to osteophytic outgrowths on the vertebrae demonstrable by *x* rays, and associated with septic mucous tracts. Seventy per cent. of the joint cases in my out-patients (in a general hospital) are toxic, of gastro-intestinal origin; in 10 per cent. I fail to find a nidus, but after what has been said it is not to be wondered at; 10 per cent. are of genito-urinary origin; the other 10 per cent., chiefly in children, are tuberculous or syphilitic (generally congenital). Many septic cases are diagnosed as tuberculous or syphilitic hydarthrosis, but the result of treatment directed to the septic conditions present proves the inaccuracy of the diagnosis.

* This aspect of the subject was dealt with by Sir Malcolm Morris[46][47] and others at Belfast this year.

From the point of view of *prognosis in other diseases*, and from the post-operative standpoint, the presence or absence of an infected genito-urinary or gastro-intestinal orifice is of incalculable importance, yet I constantly see patients, who have been residents for months in hospital wards or attendants at out-patient departments, in convalescent homes, and under special care, suffering from phthisis or chronic pulmonary affections, in whom there are septic tonsils, stumps, purulent gingivitis, submaxillary calculi, chronic rhinitis, otitis media (least often ignored), and septic genito-urinary tracts, *which have been entirely overlooked and ignored in the battle against the tubercle bacilli.* If this occurs in hospital practice, where our students are trained and post-graduates taught, how can we expect the rank and file of the profession to be other than equally indifferent to this important subject?

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AT a recent meeting of the Amritsar Temperance Society a vote of thanks was adopted to the local Government and certain of its officers for the interest they have displayed in disseminating information among schools and elsewhere with regard to the advantages of temperance. A further resolution was adopted, asking the Commander-in-Chief to take measures, similar to those adopted by the Army Temperance Association, to check the evil habit of drinking spirituous liquors among the native soldiers.

THE German Congress of Internal Medicine will hold its twenty-seventh annual meeting at Wiesbaden from April 18th to 21st, under the presidency of Professor F. Kraus, of Berlin. Among the addresses to be delivered are the following: The special diagnosis and treatment of tuberculosis, by Drs. Schutz of Berlin, and Penzoldt of Erlangen; and the origin and treatment of secondary anaemia, by Dr. D. Gerhardt of Basel.

A Clinical Lecture

ON THE

CAUSATION OF ANGINA PECTORIS.*

BY

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ANGINA PAROXYSM of angina pectoris is characterized by pain in the region of the heart. The pain is in many cases intense. During the attack the patient usually experiences a feeling of tightness and constriction in the chest; he may feel as if the chest were held in a vice; there may be a feeling of suffocation. The pain is usually accompanied by a feeling of alarm and dread, and in some cases by a terrible sensation of impending death.

The pain, which is usually first felt in the precordial or mid-sternal regions, usually radiates up to the left shoulder and down the left arm; in some cases the pain radiates through to the back; in some cases it extends up the left side of the neck; in exceptional cases the pain radiates still more widely. In some cases—but they are exceptional—the pain radiates down both arms, and in a few cases down the right arm alone, the left being unaffected.

After an attack of angina pectoris the skin over the parts in which the pain was felt during the attack is often hyperaesthetic and hyperalgesic. After a severe attack of angina pectoris the patient often for several days feels very much exhausted, and in some cases complains of special weakness—a certain degree of paresis—in the left arm, and, in the exceptional cases in which the pain extended to the right arm, it may be in the right arm. Dr. James Mackenzie thinks that the feeling of constriction in the chest is associated with and due to spasmodic contraction of the intercostal muscles.

Many different theories have from time to time been advanced to account for the manner in which the pain of angina pectoris is produced. In my book on the heart published twenty-five years ago (1884), I discussed the question in great detail. The theory which then seemed to me most satisfactorily to account for the mode of production of the pain I still believe the most satisfactory view.[1]

The brilliant researches of Dr. Henry Head and Dr. James Mackenzie have thrown a flood of light upon our knowledge of pain in visceral disease, and have rendered clear many of the points which were formerly obscure with regard to the distribution of the pain in angina pectoris.

At the outset let me point out that any theory of the causation of angina pectoris, if it is to be satisfactory, must explain the facts: (1) *That in the great majority of cases of angina pectoris the pain radiates down the left arm;* (2) *that in some cases it radiates down both arms; and* (3) *that in exceptional cases, which are very rare, it is referred to the right arm only.*

The group of symptoms included under the term "angina pectoris" may be produced by, or perhaps it would be more correct to say associated with, a number of different organic lesions of the heart and the root and arch of the aorta; and in its typical and severe forms is apt to prove suddenly fatal.

In angina pectoris all degrees of cardiac pain are met with, though there seems to be a tendency in some men's minds to limit the term "angina pectoris" to those cases—comparatively rarely met with before the age of 40—in which the pain is intense. Cases in which "cardiac" pain occurs in young and neurotic subjects, and cases in which there is no discoverable organic disease of the heart or great blood vessels are often termed cases of pseudo-angina; but the term is not a good one; a better term is, I think, "functional angina pectoris."

The former variety, which very frequently proves fatal, is very often associated with "coarse" pathological changes in the coronary arteries, heart, or aorta, and very generally, I believe, with minute structural changes, usually degenerative in character, in the heart (cardiac muscle and nerves) or blood vessels. The latter variety seldom, if ever, proves fatal, and often occurs without any "coarse" structural changes in the heart or vascular apparatus. The former may be appropriately termed the *organic* and the latter the *functional* form of angina pectoris.

This division, into a serious *organic* form and a comparatively trivial *functional* form, is of great practical and clinical utility, and may be safely adopted, provided that it is clearly understood that it is sometimes difficult or impossible to separate the two forms at the bedside—that is to say, whether the cardiac pain—the angina pectoris—is serious and due to organic disease, or whether it is, comparatively speaking, trivial and due to functional derangement.

In cases of true (organic) angina pectoris characterized by the occurrence of attacks of most severe heart pain, slight attacks of cardiac pain are of common occurrence; in some cases of organic angina pectoris the pain is never severe and widespread; in many cases of grave organic disease of the heart which prove fatal, slight angina pain is apt to occur, and in some of these cases the patients never have a typical and severe attack of angina pectoris.

In the organic cases physical examination may fail to reveal any evidence of organic disease either in the heart or great blood vessels. This is, of course, only what one would expect when one remembers that it is in many cases extremely difficult or impossible to detect by means of physical examination the organic lesions and structural changes in the heart and great blood vessels with which the organic form of angina pectoris is apt to be associated. Atheroma of the coronary arteries, fatty and fibroid degeneration of the heart, small, deep seated aneurysms of the root of the aorta, may be unattended with any definite and characteristic physical signs. Though in some cases we may be able to diagnose these conditions with practical certainty, in other cases we cannot do so. I have met with more than one case of apparently slight angina pectoris in which I could detect no definite physical signs of organic disease of the heart or aorta in which the patient has died suddenly. Vice versa I have seen cases of angina in young subjects in which the pain was very severe, and in which the diagnosis of organic angina pectoris would undoubtedly have been made if the patient had been older, or if there had been any obvious cardiac or aortic lesion, but in which the subsequent course of the case—the complete recovery of the patient and the maintenance of good health for years after recovery—showed that the angina was functional. Some twenty years ago I met with a case in hospital practice which greatly impressed me, and which showed the impossibility of differentiating the functional and organic forms. The patient was a woman, aged 36; there was no evidence of organic disease either of the heart or great blood vessels, the kidneys were normal, and the radial arteries not thickened; the angina pain of which she complained was confined to the region of the heart, and seemed to be functional; the patient was a nervous woman, and had had a great deal of domestic worry, which appeared to be the exciting cause of the attack for which she consulted me; she had also had some fits which from her description appeared to be hysterical in character. I gave a favourable prognosis, thinking that the angina was functional. This diagnosis was based upon the facts that the patient was a nervous woman, that her age was only 36, that the exciting cause of the attack appeared to be worry, that the pain was not very severe, and that the most careful physical examination failed to detect any evidence of organic lesion or structural change in the heart, great blood vessels, peripheral arteries, or kidneys. Some weeks after I saw the patient she had another attack while sitting at dinner, and she died in it.

It must also be remembered that the functional form of angina pectoris may, and I believe not infrequently does, occur in later life, while the organic form may occur in young subjects.

In order to understand the phenomena of angina pectoris it is necessary to refer briefly to the construction, so to speak, of the afferent (? sensory) nerve apparatus of the heart.

In conditions of health, and when the heart is contracting quietly, we are unaware of the action of the organ. It is only, in fact, when the cardiac action is markedly

* The cases illustrative of the lecture have been omitted.

deranged, either as the result of temporary and functional or permanent and organic causes, that we are conscious of any cardiac sensations. We become conscious of the cardiac action when the afferent (? sensory) nerve terminations in the heart and adjacent structures are more powerfully stimulated than they are in normal tranquil action of the organ; under such circumstances an impression is conducted to, and registered by, the sensory perceptive centres in the cerebrum.

The exact course of the afferent (? sensory) nerve fibres, which convey impressions from the heart to the cerebrum, has not yet been fully determined. In some of the lower animals—the frog, for example—sensory impressions seem to be conducted upwards by a special branch of the vagus, which has been termed the sensitive nerve of the heart; but it seems certain that in man the channels of sensory conduction are by no means so limited. The phenomena of angina pectoris seem, in fact, to prove that the cardiac branches of the sympathetic contain sensory fibres—fibres stimulation of which, if excessive in degree, excites pain. It would appear that in man afferent (? sensory) impressions are carried from the heart by the sympathetic fibres connected with the cardiac plexus, probably also, as in the frog, by the cardiac branches of the vagus.

Afferent (? sensory) impressions, passing to the cerebrum from the heart through the sympathetic, pass via the spinal cord, while afferent impressions passing from the heart through the vagus join the nerve centres at the medulla oblongata.

Dr. Henry Head gives the following tabulated statement of *the sensory supply of the heart*:[2]

Transverse arch of aorta	...	Inferior laryngeal segment.
Ascending arch of aorta	...	3rd and 4th cervical, 1st, 2nd, and 3rd dorsal (? 4th dorsal).
Ventricle...	...	2nd, 3rd, 4th, and 5th dorsal (? 6th dorsal).
Auricle	...	5th, 6th, 7th, and 8th dorsal (? 9th dorsal).

Dr. Gaskell informs me that the afferent nerves of the heart have their nerve-cell stations in the posterior root ganglia of the thoracic nerves (2nd to 5th), largely in the 2nd thoracic, and that possibly there are a few in the 1st thoracic.

The exact course of the fibres which conduct afferent cardiac impressions upwards through the spinal cord, and the exact position of the perceptive cerebral centre which receives such impressions, are not yet definitely known.

The pain of angina pectoris may theoretically result from excessive stimulation or irritation of any part of the sensory nerve apparatus connected with the heart; for, in accordance with the law of "eccentric projection," the pain which results from stimulation or irritation of a sensory centre is referred to that part of the periphery from which the sensory conductors or sensory centres are in the habit of receiving impressions, rather than to the point of irritation itself. Theoretically, therefore, we may suppose that it may be due to:

1. Irritation of the sensory nerve terminations *in the wall of the heart itself* (including under this term the pericardium, myocardium, and endocardium).
2. The sensory nerve-fibres comprised in the coronary and the superficial and deep cardiac plexuses.
3. The sensory conductors which connect these plexuses with the sensory perceptive centres in the cerebrum. (In the case of the sympathetic conductors the seat of irritation might theoretically be placed in (*a*) the branches connecting the cardiac plexuses with the spinal cord, including the posterior roots and posterior ganglia; (*b*) the spinal cord itself; (*c*) the conductors above the spinal cord—that is, between the spinal cord and the perceptive centre.)
4. The perceptive cerebral centres themselves.

Possibly the cardiac pain may be produced in most of these ways; but, so far as I know, there are no actual facts to show that angina pectoris is ever due to organic lesions in the spinal cord or brain. The so-called "cardiac crises" of tabes, in which angina-like attacks may occur, are perhaps an exception to this statement, but whether the cardiac crises of tabes are due to the lesion in the cord, or to a lesion in the posterior roots or the peripheral nerves connected with the heart, we do not definitely know. In some of the functional cases, the so-called "pseudo-angina" attacks met with in hysterical patients, for example, the cerebrum is probably the seat of the disturbance.

Before proceeding to consider the exact manner in which the pain of angina pectoris is produced, let us turn for a moment to the records of *post-mortem* examinations, and see what lesions have been actually found after death in cases of angina pectoris.

In a large proportion of typical cases of angina pectoris (the form which I term organic, and which is apt to prove suddenly fatal) the coronary arteries are diseased (atheromatous). In some cases the heart muscle is degenerated (fatty, fibroid, etc.). In some cases the cardiac valves (and more especially the aortic valves) are diseased; in fact almost all forms of cardiac lesion have been found. In a considerable proportion of cases the base of the aorta is dilated or aneurysmal. In a few cases pericarditis has been observed. Very frequently the peripheral blood vessels, as well as the aorta, are atheromatous.

In some cases of angina pectoris changes have been shown to be present in the cardiac nerves or ganglia.* Probably in some of the cases of atheroma of the coronary arteries in which angina pectoris does occur, the coronary nerves (which are so closely connected in their course on the exterior of the heart with the branches of the coronary arteries) are implicated, just as the cardiac nerves which ramify over the arch of the aorta are affected in some cases of atheroma and chronic arteritis of the base of the aorta.

In some cases of angina pectoris the heart has been said to be healthy, but structural changes are probably present, either in the heart or arteries or in both, in all cases of angina pectoris which prove fatal.

Let us now endeavour to determine the exact manner in which the pain is produced in cases of angina pectoris. In most cases it is, I believe, due to *irritation of the afferent (? sensory) nerve terminations in the wall of the left ventricle*—including under the term "wall" the pericardium, myocardium, and endocardium.

The exact manner in which the cardiac nerve terminations are irritated has not yet been definitely determined. The view which seemed to me most probable when I published my book on the heart was that the irritation is due to spasmodic contraction of the muscular fibres, or rather of some of the muscular fibres of the left ventricle—that the cardiac pain is, in fact, similar to the violent pain which is experienced in the calf muscles when they are spasmodically contracted as in ordinary cramp, and similar to the severe pain which is experienced in cases of renal, hepatic, and intestinal colic. We know that cramp in the calf is most apt to arise when the muscle is exhausted and fatigued; all football players must be well aware of this fact.

Gaskell has shown that when the vitality of the cardiac muscle is impaired (by exhaustion, by injury, by malnutrition, etc.) it loses its power of rapid contraction, and contracts with a prolonged tonic contraction in the same way as unstriped muscle. Again, clinical experience has shown that muscular effort and conditions which cause increase of the blood pressure in the peripheral arteries—that is, *conditions which throw an increased strain on the left ventricle*—are in many cases the exciting cause of an attack of angina pectoris. In many cases the exciting cause of an attack is walking uphill, walking against a wind, etc; in some cases, walking on the flat excites an attack; in some cases (in which we may presume the heart muscle is greatly degenerated or the blood supply to the heart very imperfect) the attack may come on without any apparent exciting cause.

An attack of angina pectoris—the pain of angina pectoris—is, in short, an external expression of the inability of a weakened or degenerated left ventricle to cope with the blood pressure in front of it; or, as Dr. Henry Head puts it: "Pain, whenever it occurs in organic

* In three cases examined by Lancereaux, Peter, and Bazy, a distinct change was found in the branches of the cardiac plexus passing over the root of the aorta. Peter, for example, found in one of his cases slight dilatation of the base of the aorta, increased vascularity and thickening of the aortic coats, and evidence of old pericarditis at the base of the heart. The branches of the cardiac plexus, which were carefully dissected out from the fibrous adhesions surrounding the root of the aorta, were found on microscopical examination to be in a condition of chronic inflammation, the nerve tubes were separated by masses of connective tissue containing numerous nuclei; some of the nerve tubes were strangled, as it were, by this fibrous tissue, their myeline sheaths ruptured and transformed into an amorphous fatty mass (*Traité clinique et pratique des maladies du cœur*, p. 673).

heart disease, is a warning and an intimation that rest is required."[3]

It is difficult to conceive that all of the muscular fibres of the left ventricle could be spasmodically contracted without a fatal result; if spasmodic contraction of the muscular fibres of the left ventricle is the cause of the pain, it must be partial. This statement does not imply that spasm of the muscular fibres of the heart is *per se* attended with pain, but that it produces irritation of the afferent (sensory) nerves, which results in the production of pain.

The view that spasmodic contraction of the muscular fibres of the left ventricle is the cause of the irritation of the sensory cardiac nerves and of the pain in angina pectoris is not accepted by many authorities. Dr. James Mackenzie thinks that in angina pectoris the pain is not felt in the heart itself, but in the thoracic wall. He thinks that the pain in the region of the heart is a referred pain, exactly similar in character to the pain in the left arm which is such a characteristic feature of angina pectoris. Dr. Mackenzie does not agree with the view that spasmodic contraction of the cardiac muscle is the cause of the irritation. He says:

> Such considerations lead to the conclusion that angina pectoris arises from certain conditions of the muscular substance of the heart, when the contraction meets with a resistance greater than it can easily and efficiently overcome, whether a fairly strong muscle struggles against an increased resistance (as when there is great peripheral resistance or a narrowed aortic orifice), or when a weak or degenerated muscle has opposed to its contraction a normal or even a lowered pressure, but a pressure greater than the weakened muscle can readily overcome. . . . From this line of reasoning I would suggest that angina pectoris is an evidence of exhaustion of the function of contractility. . . . The fundamental functions of the heart muscle correspond to those of other involuntary muscles that form the walls of hollow organs, these functions being modified to suit its special work. Like the other viscera, the heart is insensitive when stimulated in a manner that provokes pain when applied to the tissues of the external body wall. I may point out that a prolonged strong contraction of a hollow organ can produce pain, and that this is undoubtedly the cause of the severe pain associated with renal calculus, gall stones, spasm of the bowel, and uterine contractions. Can the heart give rise to pain in a similar manner? On account of the modification of its functions, the heart cannot pass into a prolonged state of contraction. Immediately it contracts, the function of contractility is abolished, and the muscle passes at once into a state of relaxation, and for this reason the pain cannot be produced by a "spasm of the heart." But I suggest that the heart muscle may produce pain when it is confronted with work greater than what it can readily overcome—a condition which produces strong peristalsis and pain in other hollow viscera. But the pain in the heart arises by a slightly different mechanism. A skeletal muscle will contract in obedience to stimulation of a sensory nerve going to the spinal centre of its nerve, if a stimulus of sufficient strength be applied. If the stimulus is too weak no contraction follows, but, if this weak stimulus be frequently and rapidly repeated, then the muscle contracts in accordance with the law of the stimulation of stimuli. I suggest that the heart muscle induces pain on the principle of summation of stimuli. If we minutely study our cases we shall find that the pain rarely arises at the first exposure of the heart to the effort that induces the pain; sometimes effort has been undertaken a few minutes before the pain comes on, and in certain cases it may not come on for hours after the causal exertion has ceased. From such observation we can infer that the heart muscle was exhausted by the exertion, and so great was the exhaustion of the reserve force that the heart was unable to regain its reserve with cessation of effort, so that the exhaustion persisted till it culminated in an attack of angina pectoris.[4]

Dr. Henry Head believes that the cause of the irritation of the sensory nerves of the heart and of angina pectoris is increased tension in the cavity of the left ventricle. He says:

> Now, it is this distension at the moment when the walls of the cavity are at rest that is most pernicious, and it is this condition above all others that is most liable to lead to referred pain.[5]

And again:

> Thus, in conclusion, it would seem that the most potent conditions for the production of referred pain are: First, the maintenance of considerable tension within a cavity of the heart, accompanied by, secondly, a sudden accession of tension (owing to regurgitation) at the moment when the walls of the cavity are dilating after systole.[6]

Possibly in some of the cases of angina pectoris in which the coronary arteries are atheromatous the degenerative process, which commenced in the inner coat of the coronary arteries (endarteritis deformans), has extended to the outer coat and implicated the coronary nerves. Under such circumstances the terminal nerve fibres in the wall of the heart would, we may theoretically suppose, be in an unusually irritable condition.

Now, taking all these facts in connexion, we may, I think, with some probability theorize that in many cases of angina pectoris the sequence of events is as follows:

First, a sudden strain is thrown upon the left ventricle, either as the result of muscular effort or an increase of the peripheral resistance due to contraction of the peripheral arteries, the result of some external condition (sudden effort, exposure to cold, mental agitation, etc.), some reflex impulse arising within the body, or changes arising in the central nervous system (vasomotor centre). The strain or increased blood pressure may be actual or merely relative in proportion to the weakened left ventricle. In some cases in which the cardiac muscle or cardiac nerves are diseased, the attack arises independently of any muscular effort or sudden increase of the peripheral resistance. Under such circumstances, a strain on the left ventricle, which under ordinary circumstances would not be attended with cardiac pain, would probably be sufficient to produce the condition.

Secondly, in consequence of the strain (either actual or relative) which is thrown on the cavity of the left ventricle, or rather those fibres of the left ventricle which are degenerated, either as the result of imperfect blood supply (disease of the coronary arteries) or of degenerative changes in the cardiac muscle, irritation of the sensory cardiac nerves is produced. This irritation is attended with severe pain (angina pectoris).

The exact cause of the irritation of the sensory cardiac nerves is not clear, *and this seems to me to be the point with regard to the pathology of angina pectoris which needs to be cleared up;* perhaps it is spasmodic contraction of some of the muscular fibres, perhaps increased tension in the cavity of the ventricle.

Thirdly, this irritation of the terminal branches of the afferent (? sensory) nerves in the wall of the left ventricle (including under this term the pericardium, myocardium, and endocardium), is reflected, via the sympathetic branches of the cardiac plexus, distributed to the left ventricle and the spinal cord (left side of the upper dorsal segments), in the form of pain, to the periphery.

Now we would naturally expect that the reflex impression would be first reflected and referred to those parts of the periphery which are more immediately connected with the spinal centres to which the cardiac branches of the sympathetic distributed in the wall of the left ventricle pass; and that when the irritation was extreme, the stimulus might extend to other and more distant masses of spinal grey matter, and be reflected to other and more distant parts of the periphery. And such is in fact the case. In most cases of organic angina pectoris the pain radiates up to the left shoulder and down the left arm, sometimes to the tips of the fingers; it not infrequently passes up the left side of the neck; in exceptional cases it may pass down the right arm.

The radiation to the left shoulder and left arm is so constantly observed in typical cases of angina pectoris that it has been by some writers supposed that the primary lesion is situated in the spinal cord itself. Anstie, for example, thought that angina pectoris was probably due to "a mainly unilateral morbid condition of the lower cervical and upper dorsal portion of the cord, liable, of course, to be seriously aggravated by such peripheral sources of irritation as would be furnished by diseases of the heart, and especially by diseases of the coronary arteries." But with this opinion I cannot agree. In no case of angina pectoris, so far as I am aware, has a lesion of the spinal cord been found, and it is extremely difficult to believe that any spinal lesion could be so constantly unilateral—the very fact, in short, which Anstie advanced against the radiation of the pain outwards from the heart, namely, the unilateral character of the brachial pain, seems to me strongly opposed to his view.

This explanation is in accord with, and is in fact corroborated by, the facts (1) that the exciting causes of angina pectoris are increased muscular effort and conditions which produce increased pressure in the peripheral arterial circulation—that is, conditions which throw an increased strain (either actual or relative) on the left ventricle; (2) that in

many cases of angina pectoris the paroxysm is at once relieved by rest (stopping to rest while going uphill) and remedies (nitrite of amyl, etc.) which rapidly reduce arterial tension and take off the strain from the left ventricle; and (3) that in some cases of angina pectoris the attacks of angina disappear with the development of mitral regurgitation.

But further—and this is a very important point which for many years I have emphasized in my teaching—in the exceptional cases of angina pectoris in which the pain radiates to both arms or to the right arm alone, the "coarse" lesions, which are associated with and which are apparently the cause of the pain, often (? always) involve the root of the aorta or the aortic arch. I have met with a number of clinical cases which seem to corroborate this view.

A number of different theories may be advanced to account for the fact that in some exceptional cases of angina pectoris the pain, instead of radiating to the left arm, passes down both arms or down the right arm only.

The most satisfactory explanation is, in my opinion, that which I have just stated—namely, that in the exceptional cases of angina pectoris in which the pain radiates to both arms or to the right arm only, the irritation which causes the pain has its point of origin outside the heart—that is, that the irritation is due to a lesion, for example, of the root or arch of the aorta, or of the afferent (? sensory) nerves in the outer coat of the aorta, and not, as in the ordinary run of cases of angina pectoris, in the wall of the left ventricle. This view is corroborated by the fact that in many of the exceptional cases of angina pectoris in which the pain radiates to both arms or to the right arm only, a lesion either at the root of the aorta or of the aortic arch (aneurysm, atheroma of the root of the aorta, aortitis or periaortitis, aortic regurgitation, pericarditis) is actually present. I have seen quite a number of cases of this kind, and from time to time brought them before my clinic, and explained to the students their great interest and importance.

At the last annual meeting of the British Medical Association an important discussion on angina pectoris took place. Sir T. Clifford Allbutt, who opened the discussion, advanced the theory, which he had first propounded in the year 1894, that "the origin of angina pectoris was not in the heart but in the supra sigmoid portion of the aorta and its investments."[7] In the article on angina pectoris in my *Diseases of the Heart* I stated that disease at the root of the aorta and of the nerves ramifying over the root of the aorta seems in some cases of angina pectoris to be the cause of the pain. But that disease at the root of the aorta, or stretching of the root of the aorta, is the usual cause of angina pectoris, as Sir T. Clifford Allbutt supposes, seems to me to be contradicted by the fact that in the great majority of typical cases of angina pectoris the pain is reflected to the left shoulder and left arm. It is difficult, I think, to conceive that irritation arising in the aorta above the sigmoid valves in the way Sir T. Clifford Allbutt supposes could be so constantly reflected to one (the left) side of the body; while the fact that in many of the exceptional cases of angina pectoris in which the pain is reflected to both arms or to the right arm only, my clinical and pathological observations show that the root or arch of the aorta is diseased is, I think, of great significance. It is easy to conceive that when disease at the root of the aorta is the cause of angina pectoris the pain would be reflected to both arms, since in these cases the afferent nerves from *both* ventricles or from the aorta itself (passing to both sides of the spinal cord) would be likely to be implicated; and that in some cases of aneurysm of the aortic arch or local disease of the aortic arch the nerves passing from the right side of the heart or the right side of the aorta to the right side of the spinal cord might alone be implicated; this would explain the reflection of the pain to the right arm alone.

Another explanation of the radiation of the pain to both arms is that in the cases of angina pectoris in which this occurs the peripheral irritation has been sufficiently severe to pass over to the opposite (right) side of the spinal cord, and to be reflexly directed (referred) to the right as well as to the left side of the body (right as well as the left arm).

Another explanation of the radiation of the pain to the right arm is to suppose that the nerve terminations in the wall of the right ventricle have become irritated.

It has been suggested that the paroxysm of angina pectoris can be produced by a sudden diminution of the blood supply to the heart itself. According to this view, which I mentioned in my *Diseases of the Heart*, the coronary arteries become spasmodically contracted and cause a sudden diminution of the blood supply to the heart.

The intermittent claudication view, which is a modification of the anaemic theory (but which does not necessitate the supposition that there is spasmodic contraction of the coronary arteries), is more probable.

The phenomena which characterize the remarkable condition which has been termed "intermittent claudication," or intermittent limping (angina cruris), suggest that angina pectoris may be produced when increased muscular effort is demanded of a left ventricle which is imperfectly supplied with blood (perhaps as the result of spasmodic contraction of some of the muscular fibres).*

In intermittent claudication the arterial blood supply to one or both of the lower extremities is interfered with by obliterative arteritis, etc.; so long as the parts are at rest there are, or may be, no symptoms; but muscular efforts, which demand a copious supply of arterial blood, are attended with loss of motor power, stiffness, cramps and spasms, and, it may be, *acute pain* in the muscles of the affected part. If the patient rests for a time these symptoms pass off, and so long as muscular effort is not demanded the patient remains (apparently) well.

Now the most constant pathological change which is met with in fatal cases of angina pectoris is atheroma of the coronary arteries. In many of these cases the blood supply to the heart is defective, and degenerative changes are present in the muscular tissue of the heart. Under such circumstances it seems not unreasonable to suppose that when a sudden strain (whether actual or relative) is put upon the left ventricle, weakness and overdistension or spasmodic contraction of the muscular fibres or some of the muscular fibres of the left ventricle may occur, and an attack of angina pectoris may be developed, just as spasmodic contraction of the muscles and pain in the leg may occur in cases of intermittent claudication as the result of muscular effort. This seems to be a plausible explanation of the usual (typical) cases of angina pectoris. It accounts for the frequent association of angina pectoris with disease of the coronary arteries, for the occurrence of the angina pains after muscular effort and other things which throw a strain (either actual or relative) on the left ventricle, and which demand increased effort from the muscular fibres of that cavity.

The organic form of angina pectoris is often met with in gouty subjects, and is popularly included with other conditions under the term "gout of the stomach." Gout, it will be remembered, is one of the conditions which produce atheroma, and therefore disease of the aorta and coronary arteries. Further, in gouty subjects increased blood pressure, whether actual or relative to the strength of the left ventricle, which is such an important exciting cause of an attack of angina pectoris, is, of course, extremely common, more particularly when the kidneys are cirrhotic.

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[1] *Diseases of the Heart*, page 672. et seq. [2] *Brain*, vol. xix, p. 225. [3] Ibid., p. 226. [4] *Diseases of the Heart*, pp. 39 and 40. [5] *Brain*, vol. xix, p. 215. [6] Ibid., p. 224. [7] *Lancet*, 1909, vol. ii, p. 337. Sir T. Clifford Allbutt's remarks are reported in full in the BRITISH MEDICAL JOURNAL, 1909, vol. ii, p. 1122.

* I have discussed the subject of intermittent claudication and published cases illustrative of this condition in my *Clinical Studies*, vol. vi, p. 317.

THE Pasteur Institute of Paris has presented to the Rockefeller Institute for Medical Research of New York a replica of the bronze bust of Louis Pasteur, in recognition of assistance rendered during the recent epidemic of cerebro-spinal meningitis which prevailed in France.

DR. PARTROU has founded a vegetarian society in Roumania, with branches all over the country. The society issues a journal, the aim of which is to make the advantages of vegetarianism known to the people. It has also established at Bucharest a restaurant which is managed on vegetarian principles.

Remarks
ON
SOME POINTS IN THE TREATMENT OF NERVE INJURIES.

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THE importance of the early diagnosis and correct treatment of injury of one of the nerve trunks of a limb is difficult to over-estimate. Injury, for example, of the median, ulnar, or musculo-spiral nerves, unless completely recovered from, leaves the patient permanently unfitted to follow any employment involving the full, skilled use of that limb.

I have pointed out[1] that after primary suture of any one of these nerves recovery may be perfect, the part being restored to a condition indistinguishable from normal; that[2] the same may occur after incomplete division; but, on the other hand, after secondary suture the prospect of complete recovery is not so good, and sensory recovery is rarely perfect. Considerable responsibility attaches to those who are called upon to treat cases of nerve injury, for the ultimate prognosis depends upon the prompt treatment at the time of the accident and the efficient supervision for many months after it.

It is still no uncommon thing to see patients in whom the nerve injury has been overlooked, or in whom recovery is incomplete owing to imperfect treatment at the time of the accident, or later. It cannot be too often reiterated that a careful search must be made for evidence of nerve injury in every case of penetrating wound, especially in the region of the wrist, and also in all fractures. The search should be systematic and carried out on a definite plan. In extensive wounds in the wrist region, the fact of the nerve injury should always be discovered before the wound is explored and the damaged structures dealt with. This rule is not infrequently broken, and has led to the union of divided nerves to the severed ends of tendons. In fractures of the humerus, if the nerve injury is produced at the time of the accident—that is, is primary—operation should be undertaken without delay; the division will usually be found to be anatomical and complete. If expectant treatment is adopted in the hope that spontaneous recovery will ensue, it may be impossible at operation at a later date to bring the ends into apposition after they have been freed, rendering nerve transplantation necessary. Much valuable time is lost, and the prognosis is not nearly so good.

If these points are remembered, the operation of secondary suture would be almost unknown. Nerve injuries are overlooked, not from any want of knowledge, but from the neglect of systematic examination. It is not necessary—and, indeed, may be impossible—in the cases mentioned to discover before exploration if the injury is complete or incomplete; the fact that a nerve is injured in a penetrating wound, or in connexion with fracture of the humerus, should indicate immediate operation

There are three small but important points in connexion with the operation itself that are often overlooked, seriously interfering with full recovery: (1) The suture must be of absorbable material; (2) the wound in the nerve must be protected; (3) in wounds in the region of the wrist the deep fascia must be united separately.

1. Fine catgut should be used to unite the ends of the nerves, plain if there is no tension, lightly chromicized in cases where any tension falls on the junction. Non-absorbable material—silk, linen thread, celluloid thread—should be avoided; they give rise in many cases to symptoms months after suture, when recovery is well advanced, causing relapse and seriously interfering with complete recovery. I have recorded one such case[3] in which silk was used, and have seen several others. The following is a typical example, in this instance following the use of Pagenstecher thread:

Barbara N., aged 28, was admitted to the London Hospital under my care on April 14th, 1909. On May 15th, 1907, she cut her right wrist, and was admitted a few hours later to the London Hospital, where primary suture was performed by the house-surgeon on duty, Pagenstecher thread being used as suture material. Slight suppuration took place, and the wound did not heal throughout for eight weeks. Recovery was slowly progressing until three months before admission, when the hand began to get painful, the pain increasing in severity.

When I saw her the hand was held with the thumb in the position it often assumes in paralysis or weakness of the opponens abductor group of muscles, hyper-extended at the metacarpo-carpal joint, and slightly flexed at the metacarpo-phalangeal and inter-phalangeal joints. The opponens and abductor muscles were not acting, but reacting to stimulation with the interrupted current. The skin of the affected portion of the palm was bluish-red, and blisters were present over the terminal phalanges of the index and middle fingers; these had been present fourteen days. Light touches were not appreciated over the whole median area; a prick within this portion of the hand was extremely painful, and the sensation produced radiated widely. In the position of the median nerve at the wrist was an oval swelling, extremely tender, the pain being referred to the full distribution of the nerve.

At operation the day after admission, I traced the median nerve from above and from below into the oval swelling. On making a longitudinal cut into it, I found a cavity containing a celluloid stitch. I then wrapped the nerve in Cargile membrane, and sutured the deep fascia and the skin. The hand was kept slightly flexed on a posterior splint for three weeks. The pain disappeared gradually, and had quite gone when she left hospital, April 26th. Massage was started as soon as the splint was removed. She is slowly recovering, the muscles are acting voluntarily, and there is no pain or tenderness; but it is very doubtful if recovery will ever be perfect.

2. In all cases in which a nerve has been wounded it should be protected from forming adhesions to surrounding structures by wrapping in Cargile membrane. When tendons have been divided they should be treated in a similar way. Failure to protect the nerve is responsible for imperfect recovery in a certain number of cases, and often necessitates a second operation, even when, as in the following case, the nerve was not completely divided.

L. M., aged 16, was admitted to hospital under my care, June 3rd, 1909. On January 2nd, 1909, she cut her wrist with broken glass. The wound was explored within a few hours, and the nerve found incompletely divided. Two months later I saw her, as recovery was not as rapid as had been anticipated. The fingers were in the "ulnar" position, and the intrinsic muscles supplied by the ulnar nerve were wasted and paralysed, but gave the reactions which I consider typical of a certain stage of incomplete division.[4] Sensibility to light touch was diminished over the ulnar area on the palm and little and ring fingers, and over the last two phalanges of the little finger on its dorsal aspect. It was obvious that the nerve had been incompletely divided below the point at which its dorsal branch is given off. I advised relaxation of the paralysed muscles and massage. In spite of this no improvement took place. By June the wasting of muscles was more marked, and sensibility to light touch was completely lost. On June 9th I operated, and found that the ulnar nerve and flexor carpi ulnaris tendon had been cut into just above the pisiform bone, and were bound up in a dense mass of fibrous tissue. I freed them, and wrapped in Cargile membrane.

There is little doubt that if the nerve and tendon had been protected at the time of exploration recovery would have advanced steadily, and by this time have been complete.

3. After wounds in the region of the wrist the deep fascia should always be carefully sutured. If this is not done the tendons may become adherent to the skin, interfering considerably with their mobility, and in many cases, when the wound has been extensive, a hernia of tendons forms, which is a source of weakness until remedied by operation.

If these three points were remembered in operations upon recent nerve injuries, the percentage of cases of recovery of conduction in the nerve and of complete restoration of function in the damaged part would be much higher than it is.

But operation is only the first step in the treatment of a

case of anatomical division of a nerve. In order to obtain perfect recovery systematic treatment must be carried out for a considerable time, after complete division and primary suture of the median, ulnar, or musculo-spiral; at least twelve months—in the first two probably longer—must be devoted to this. Regeneration of the nerve will ensue if the points I have mentioned be remembered and the wound heal by first intention; but in order that recovery of function may be perfect, the paralysed muscles must be kept relaxed by the application of suitable splints or apparatus, and their nutrition kept up by massage until the restoration of voluntary power, when the splints may be discarded and systematic exercises adopted. The skin must be protected from injury during the first stage of recovery; failure to do this has resulted, in several cases which have come under my care,[5] in destruction of one or more of the phalanges of the affected fingers.

Failure to carry out muscular treatment must be held responsible for many incomplete recoveries. In my experience it is unusual to find any attempt made to prevent overstretching of the paralysed muscles; it is no uncommon occurrence to see a patient who has had an injury to his musculo-spiral nerve walking about with the typical drop wrist, or a patient being treated by massage after an injury of the ulnar with the fingers allowed to remain in the "ulnar" position. Recovery will never be perfect under these conditions; the paralysed muscles must be kept relaxed until the return of voluntary power. I have seen several cases in which nerve regeneration has ensued, but the limb remains useless on account of the muscular disability resulting from neglect of treatment.

In subcutaneous injuries treatment is imperfect most often in cases of brachial birth paralysis. It often happens that a child of 3 or 4 is brought with a view to operative procedure on account of the persistence of the deformity, and it is found on examination that nerve recovery has ensued, the muscles reacting perfectly to the interrupted current. In these cases it is impossible to tell by inspection what, if any, recovery has taken place, for the overstretched muscles do not act voluntarily. In some cases the resulting deformity is permanent. In the usual type of birth paralysis (Erb-Duchenne) the limb should be bandaged to the side over cotton-wool and the elbow supported, and should be taken down for massage, passive movements daily, and this treatment continued until muscular recovery ensues, or the occurrence of the reaction of degeneration in the affected muscles renders operation advisable.

There is a form of nerve injury in which the importance of early diagnosis and treatment does not appear to be universally recognized. I refer to the involvement of nerve branches in scar tissue. These cases are often overlooked or treated by massage and various lotions until serious damage has resulted, and prolonged and perhaps permanent disablement is caused.

It rarely happens now that symptoms due to nerve involvement follow a major amputation, for it has become one of the recognized steps of the operation to pull down and cut short the nerve trunks. This is often neglected in amputations of the fingers. During the last two years I have seen eleven workmen who were incapacitated from this cause, and have operated upon six, all of whom were able to return to work within a short time. It is to this form of nerve involvement that I wish particularly to refer.

The symptoms following the involvement of nerve branches in scar tissue and wounds of small nerves were well known to the older surgeons. A very definite train of symptoms follow, which I have discussed elsewhere,[6] and only wish here to draw attention to those which follow involvement of nerves in amputations of the fingers.

The following is an example of the type of case as it usually presents itself at an early stage.

M. R., aged 18, was admitted under my care on December 7th, 1907. Three months previously the first and second fingers of the right hand were crushed in machinery and were amputated through the middle of the second phalanges. Both suppurated and did not heal for two months. Soon after the wound was healed burning pain was noticed in the middle finger, at first in the scar, later involving the whole finger and shooting up the arm. I found the skin of the whole of the stump of the middle finger red and shiny. The scar itself was extremely tender, and on drawing a needle over the palm of the hand the median area was hyperalgesic, but there were no changes in the skin. The stump of the index finger was free from tenderness and the skin of normal colour. On December 9th I turned back the old flaps and found the two palmar digital branches spread out over the end of the bone in a fan-shaped manner. I dissected them out and divided them as high as possible, and then removed a little more bone, in order to allow the flaps to meet without tension. Pain was lost at once, and on discharge ten days later the wound was healed, all tenderness had gone from the stump and hand, and the appearance of the skin of the stump was normal.

This was an early and satisfactory case. In many cases, particularly where compensation is in question, hysterical symptoms supervene, but they are by no means confined to cases of this nature. In other cases the muscles supplied by the nerves whose branches are involved are wasted and paralysed, later the pain may spread to other nerves and be complained of in the corresponding positions on the opposite side of the body; lastly, particularly when fruitless operations have been performed, neurasthenia develops.

With regard to treatment, this should be preventive. I have been struck with the number of cases in which suppuration took place. I believe this is due to neglect of Listerian principles. From my own experience, I know that suppuration can be prevented in the large proportion of cases by the judicious use of carbolic lotion. The first aid treatment of a case of this nature should be to surround the part with a compress wet with 1 in 20 carbolic while preparations are being made to thoroughly clean up the surrounding skin. In the treatment of accidental wounds, nothing acts so satisfactorily as an antiseptic as carbolic. While nerve involvement may take place in wounds that heal by first intention, the most severe cases are those in which prolonged suppuration occurred.

In several cases upon which I have operated, the digital nerves have been spread out in a fan-shaped manner over the end of the bone; this with the appearance of the bone led me to think that the bone was divided with bone forceps before the soft parts had been efficiently freed. If bone forceps are used, it must not be until the bone is bare. In every amputation the nerves should be seen and cut short.

When pain and tenderness develop, treatment should not be delayed. The prognosis is good if operation is performed when the pain and tenderness is still confined to the scar or stump; when it has spread to other nerves, or is associated with hysteria or muscular affections, it is by no means favourable, and may, when spread has taken place, necessitate a serious operation—division of posterior roots—before relief can be obtained. Operation should be carried out with a definite object in view, to find and cut short the involved nerves. Reamputation should not be done in a haphazard way. I have notes of one patient who has had four reamputations performed without success, and now has all the complications that can result in this condition.

Sometimes it is possible to feel swellings on the ends of the involved nerves. This may be a help in finding them. In most cases it is best to turn back the old flaps and search for the nerves at the end of the bone. If they cannot be found here, they should be found at the sides of the fingers, traced to their involvement, and cut short. It is only necessary to remove bone when the flaps will not come together again without tension. After closure of the wound the part should be kept at rest until healing has taken place. In few cases will this fail to relieve the pain. If the pain is not relieved, or recurs, no further local operation should be done if the first was thorough. Before proceeding to the only certain treatment in these cases—division of posterior roots—Weir Mitchell treatment must be tried after removal of all cause for worry. It is useless treating advanced cases while compensation proceedings are pending. Weir Mitchell treatment must also be adopted after operation in the cases complicated by hysteria. When muscular symptoms are present, the affected muscles must be kept relaxed by suitable apparatus, until voluntary power returns, and daily massage given. It is often twelve months before muscular recovery takes place.

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ON A CASE OF SPASMODIC SYRINGOMYELIA.

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THERE are few diseases in which the symptoms present so many variations, both in kind and in grouping, as in syringomyelia. The most characteristic features of the disease are: Loss of sensibility to pain and temperature affecting portions of the arms and the upper part of the chest; muscular atrophy resembling in its distribution and progress that of "progressive muscular atrophy," and trophic disturbances of the skin, bones, and joints. Associated with these symptoms there may be loss of tactile sensibility, a spastic weakness of the legs varying much in intensity, ataxia, enlargement of a limb, or signs of implication of some of the cranial nerves, or of the cervical sympathetic. According to the presence or absence of any of these symptoms, to their relative preponderance and to the variations in their combination, the diagnosis in certain cases may be difficult, and may involve a consideration of disseminate sclerosis, disseminated forms of myelitis, cervical pachymeningitis, amyotrophic lateral sclerosis, ataxia paraplegia, and bulbar paralysis.

With regard to spasm, this as a rule is but little marked in syringomyelia, muscular hypertonus being often only expressed by exaggeration of the knee-jerk. Sometimes it is more in evidence, and in the legs may be associated with definite paralysis; then, if the muscles of the arms are atrophied, the case, apart from sensory phenomena, may closely resemble one of amyotrophic lateral sclerosis. Very rarely muscular spasm is so marked and so widespread that it constitutes the dominant feature of the case. This spasmodic form of syringomyelia was first described by P. Marie in 1900. Two years later one of his pupils, G. Guillain, wrote a thesis on the subject, in which, after a careful analysis of five cases, he enumerated the following symptoms as characteristic of the fully developed condition:

1. The arms are firmly applied to the sides of the chest, the elbows are slightly flexed, the wrists are extended, and the hands tend to meet in front of the pubis. The shoulders are raised and projected forwards, and a hollow is formed by the sinking in of the upper part of the sternum and the adjacent cartilages; the head is also inclined forwards, and is sunk between the shoulders. The back is rounded; the external border of the trapezius is often unduly prominent. The attitude is a rigid one, and resembles that of paralysis agitans.

2. The position of the hand is peculiar; besides being hyperextended, like the hand of a preacher, the three inner fingers are firmly flexed into the palm, and tend to recoil like a spring after they have been forcibly extended, but the thumb and index finger remain extended, and for a long time preserve a certain degree of movement which is like that of a pincers.

3. Limitation of movement, which affects all four limbs and sometimes the head, is mainly due to muscular rigidity.

4. The knee-jerks are greatly exaggerated, ankle-clonus is easily elicited, and the plantar reflex gives an extensor response.

5. The evolution of the malady is very slow, and its duration long, lasting often for more than twenty years. Death is frequently the result of septic infection from a paralysed, and often an ulcerated, bladder.

Guillain made a pathological examination in two cases. He found intense degeneration of the pyramidal tracts in their whole length in the cord; to this degeneration, more marked than that usually found in syringomyelia, he attributes the spasmodic condition. Since his thesis Guillain, in conjunction with Alquier and Raymond, has described two more cases. Other cases have been reported by Raymond and Francais, Verger and A. Bruce. In Bruce's case, which he diagnoses as probably a very early instance of the spasmodic form of syringomyelia, the symptoms were limited to the left arm; this showed the characteristic attitude, and there was dissociated sensibility of portions of the hand and forearm. In addition to muscular spasm, the skin and subcutaneous tissues of the arm were much thickened and the muscles were unduly firm; the condition was one of scleroderma and fibromyositis.

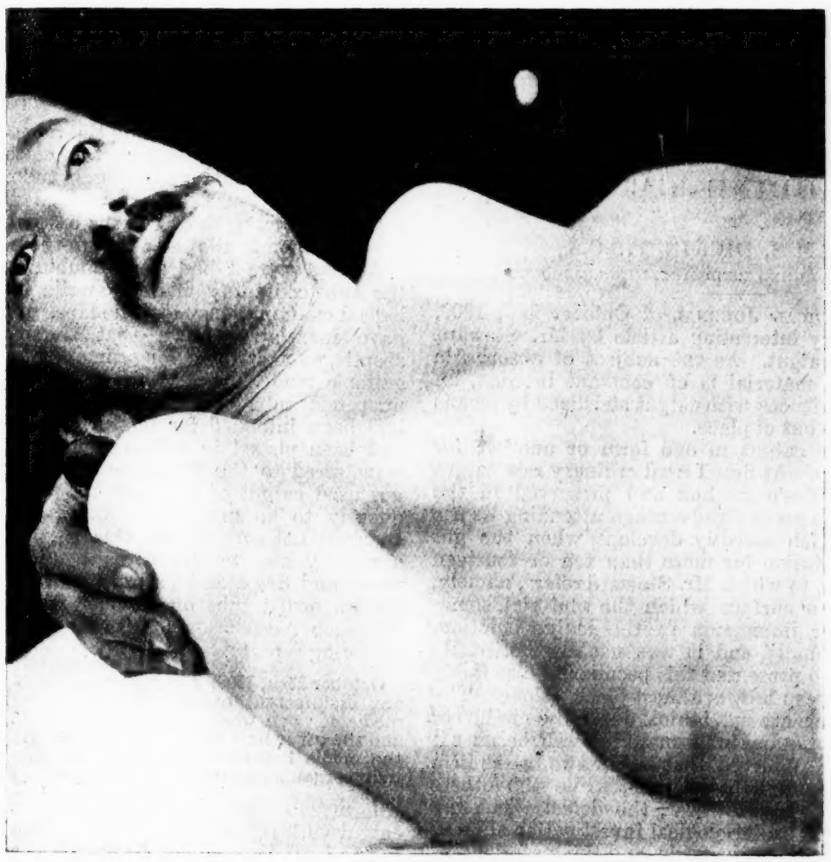
The following case, which was recently under my care at the Manchester Royal Infirmary, corresponds in its main features with the description given by Guillain of the spasmodic variety of syringomyelia.

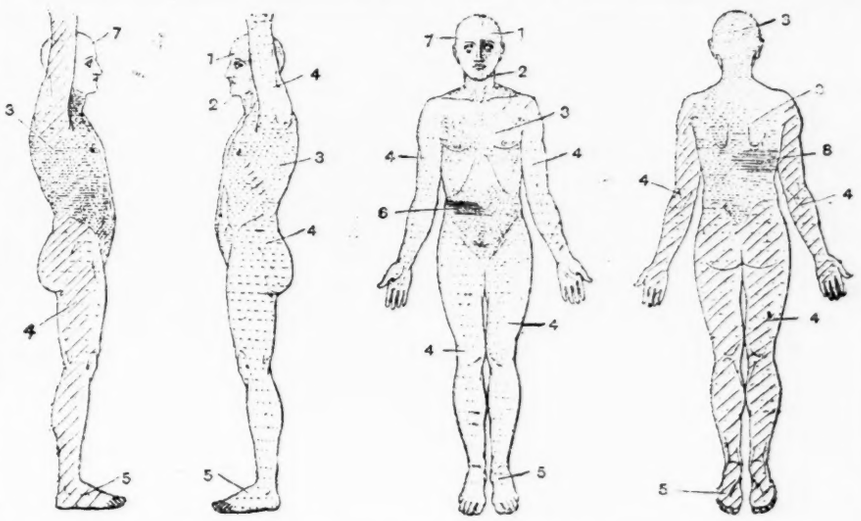
CASE.

M. W., aged 30, was born in Yorkshire, and has always lived in England. Between the ages of 5 and 7 he had "fainting fits," about one attack a week, in which he lost consciousness; there was no struggling, no biting of the tongue, nor involuntary micturition. When about 21 years of age he contracted gonorrhoea, but denies having had syphilis. In 1893 (aged 20) he was medically examined for the railway service, and was passed as quite healthy. In 1897 (aged 24) curvature of the spine was noticed. In 1900 (aged 27) his left arm became weak, and gradually got weaker and stiffer. In 1903 (aged 30) the left leg began to get weak, and a few months later the right arm and the right leg. During the year 1904 his legs got steadily weaker and stiffer; his left leg used to jerk spasmodically at times, and the right leg became very tremulous under the influence of emotion or exertion. In January, 1905 (aged 32), he was obliged to give up work, and he entered University College Hospital under Sir Thomas Barlow. Six weeks later he went into the National Hospital under Dr. Risien Russell. On June 22nd, 1906 (aged 33), he was admitted under my care at the Manchester Royal Infirmary, when the following notes were taken: Patient is a short, thin man, very poorly nourished, unable to stand without support. There is a marked lateral curvature of the dorsal spine, with the convexity to the left; the left side of the thorax bulges posteriorly. The shoulders are raised and project forwards; the upper part of the chest presents a distinct hollow. These features are well shown in the accompanying figures, from photographs.

The patient is unable to sit up in bed, his trunk is very rigid. The limbs are weak and rigid, the right arm the least so. The left arm is almost completely paralysed; the upper arm is pressed against the side of the chest, the elbow is slightly

flexed, the wrist is hyper-extended. The whole limb is very rigid, and much force is required to bend its joints. All the finger-joints are flexed, the index finger being less bent than the other fingers; the distal joint of the thumb is hyper-extended, and is usually pressed against the first finger. The right arm is also rigid, but patient can feebly move it at shoulder, elbow, wrist, and fingers; the hand is strongly pronated; there is only slight power to supinate it. The fingers are rigidly flexed at the metacarpo-phalangeal joints, and slightly flexed at the phalangeal joints; the index finger is less rigid than the other fingers. Patient can feebly lift his legs from the bed, and can bend and extend the knees, ankles, and toes; all these movements are very difficult owing to muscular rigidity. Adduction and abduction of the thighs are stronger than other movements. The right leg is weaker than the left one; on movement it shows a fine rapid tremor. The left leg is occasionally drawn up by spasm. The limbs are very thin, but there is no obvious muscular atrophy. The wrist, elbow, and knee jerks are exaggerated; there is marked ankle clonus; the plantar reflex is extensor in type; the superficial abdominal reflexes are present. The patient is free from pain, and from other abnormal subjective sensations. The sense of position is not affected; muscular sensation as tested by squeezing the muscles is normal. Tactile sensibility is not impaired except to a slight degree on the hands and feet. Sensibility to pain is abolished or considerably diminished all over the body, with the exception of portions of the left arm. Sensibility to heat and cold is also diminished, but patient's answers are so variable that it is difficult to define the limits of the loss. The mental condition is normal. The only signs that any of the cranial nerves are involved are: (1) Marked nystagmus when patient looks towards the left side; and (2) analgesia of the face. The bladder and rectum are not affected. The patient was treated with massage, and his spine was exposed to the Roentgen rays thrice weekly. This treatment was followed by an improvement in the flexibility of the limbs and in the movements of the right arm.





1, Impaired sensation to pain; temperature sense normal. 2, Impaired sensation to temperature only. 3, Impaired sensation to both pain and temperature. 4, Slightly impaired sensation to both pain and temperature. 5, Very slightly impaired sensation to both pain and temperature. 6, Impaired tactile sensation. 7, Sensation normal. 8, Slightly impaired tactile sensation.

He left the hospital on August 21st, was readmitted on September 25th, 1907, and was discharged on December 11th. At this time his condition was much the same as formerly. The following minor differences were observed: The limbs and body were more rigid, there was no voluntary power to move the left arm at the shoulder, and the superficial abdominal reflexes were absent. On October 22nd, slight improvement in the power of the right arm was noted; this was attributed to daily massage. Patient was admitted to hospital for a third time last July, and remained under treatment until November. He thought that daily massage did him good and lessened the tendency to tremor of his limbs. In other respects no material change in his condition was observed. Tactile sensibility was normal with the exception of a small area over the trunk. Sensibility to pain and temperature was most diminished over the occiput, the neck, and the trunk; it was less affected over the limbs, and was nearly normal over the left arm. On both arms a cold test-tube was occasionally thought to be warm. On the legs the temperature sense was only definitely diminished over the left thigh. Slight variations in the distribution and the condition of sensation were noted on different occasions; the accompanying charts were made shortly before he left the hospital.

In its main features—namely, the intense and widespread rigidity, the peculiar attitude of the upper part of the body, and the dissociated sensibility—this case corresponds to the spasmodic form of syringomyelia, and it is difficult to admit the possibility of any other diagnosis. The rigidity might be caused by cervical pachymenigitis, but in this condition we should expect pain and muscular atrophy in the arms. In all probability the cavity occupies a considerable length of the spinal cord, and there is evidence in the presence of nystagmus and of analgesia of the face that the lesion extends into the bulbar region.

The extreme muscular rigidity suggests that the pyramidal tracts are severely implicated.

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DRY IODINE CATGUT.

BY

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IN the BRITISH MEDICAL JOURNAL of October 2nd, 1909, there appeared a very interesting article by Mr. Steward on formalin-iodine catgut. As the subject of absorbable ligature and suture material is of constant interest, an account of my experiences with catgut sterilized by means of iodine may not be out of place.

I have used iodine catgut in one form or another for more than four years. At first I used ordinary raw catgut prepared by Claudius's method and preserved in the iodine solution. The great disadvantage attending its use is the brittleness which speedily develops when the gut lies in the iodine solution for more than ten or fourteen days. Another point to which Mr. Steward refers, namely, the rough and uneven surface which the material sometimes assumes after immersion in the iodine solution, annoyed me occasionally, and it was usually noticeable that the hanks which presented this peculiarity also failed to assume the usual deep brown, almost black colour. The last mentioned defects are not, I think, due to the method of preparation, but to variations in the material itself, because it would sometimes be observed that one or two hanks in a batch were rough and light-coloured, while the others were smooth and dark. However, the defect was more apparent than real, as bacteriological investigation showed that the doubtful hanks were sterile, and the material was just as strong and easy to handle as that presenting the usual appearances. On the whole, the method is satisfactory, and I still use it in hospital practice where a batch of catgut is speedily used up and renewed, because it reduces the preparatory handling to the minimum.

In private practice, however, the conditions were somewhat different; a given quantity of catgut lasted a very much longer time, and it was therefore necessary to prepare it in relatively small quantities and more often, or to take the chance of finding that the latter part of the stock had become rotten.

After reading the memoir on dry iodine catgut by Alexis v. Moschowitz,[1] I tried the method recommended, and have adhered to it ever since. The plan I follow is this:

I prepare four dozen lengths of one size at a time, because the tins which serve for the final storage of that quantity are of a handy size.

I wrap four dozen special glass slides with notches cut at the ends in a piece of gauze, and place them in a glass jar, and sterilize jar and contents in a steam sterilizer. Of course this preliminary sterilization is not essential; indeed, it is almost superfluous, since if the iodine solution can be trusted to render the catgut aseptic, it can also be trusted to sterilize the slides and the interior of the jar; still it is just as easy to use a sterile jar and sterile slides and to do the work with clean hands as to employ the reverse conditions.

One length of catgut is then wound loosely on each slide. A certain amount of slack is essential, as the gut contracts so much in the solution.

The loaded slides are placed in the jar, and an excess of iodine solution poured over them, and the jar, which is fitted with a ground-in glass cover, is stored in a dark place.

On the tenth day the iodine solution is poured off, and, after waiting for a few hours to allow as much of the fluid as possible to drain from the catgut to the bottom of the jar, the slides are transferred to sterile test tubes.

In a copper tin I place four dozen test tubes, each tube plugged in the ordinary bacteriological fashion with cotton-wool, with a layer of Gamgee tissue above and below the tubes; the tin and its contents are sterilized in a high-pressure steam sterilizer for half an hour, and then placed in a gas oven to ensure perfect dryness of the tubes and wool plugs.

With gloved hands and sterile forceps the loaded slides are transferred from the jar to the tubes, one slide to each tube, and the cotton-wool plugs are immediately replaced after a preliminary singeing in the flame of a spirit lamp. The covering layer of Gamgee tissue is placed over the tubes, the lid put on, and the tin put away upside down for a couple of days to allow of any remaining moisture gravitating from the interior of the tubes into the plugs. At the end of that time the catgut is perfectly dry and the plugs are more or less impregnated with iodine.

Preserved in this way the catgut will keep almost indefinitely and retain its tensile strength unimpaired for years; but perfect dryness is essential, otherwise the material is sure to become brittle.

For a time I tried sealing the tubes—after the contents were apparently dry—over the cotton-wool plugs with paraffin wax, and again I used tubes fitted with screw caps, but I found no advantage therefrom; indeed, I think that the catgut keeps best when a certain degree of ventilation is allowed through the plugs.

At one time I had some doubts as to the certainty of the tube contents remaining sterile, but repeated bacteriological examinations after the lapse of considerable periods have invariably shown that the catgut was perfectly aseptic, so that for a long time I had no further investigations made. I had in my possession, however, an unopened tube of No. 6 formalin-iodine catgut which had been intended for ligaturing pedicles, etc. The gut had been placed in iodine solution on May 7th, 1906, and transferred to the test tube on May 17th, 1906. I have not used catgut of this size for years, for reasons subsequently to be mentioned, and I felt that in any case I should not care to use this particular specimen, as its asepticity and tensile strength might be doubtful three years and five months after preparation. I therefore sent the unopened tube on October 20th, 1909, to the Clinical Research Association for investigation, and received the following report:

October 28th, 1909. After a preliminary washing to get rid of any disinfectant present, the catgut was incubated in sterile media for one week, half the time under anaërobic condition and the other half under ordinary conditions. After this time the media had remained quite sterile, proving the absence of living organisms from the catgut.

I myself tested what remained of this specimen of catgut with regard to its tensile strength, and found that it was in no way impaired, the average breaking strain of the knotted catgut being 36¼ lb.

When I first adopted the dry method of preservation I used the ordinary formalin catgut supplied by the dealers as my raw material, but ultimately gave it up, for two reasons.

One was that the formalin catgut never stained deeply in the iodine solution; usually after ten days' immersion it was only of a light brown colour. This was perhaps only a very unimportant matter, as bacteriological investigation of the light-coloured strands demonstrated their asepticity, a point which was amply confirmed by clinical experience; still the deep colour provides a somewhat rough but visible guarantee that the iodine has penetrated thoroughly into the material.

The other was that it remained too long unabsorbed. In the great majority of cases this constituted no disadvantage, but in several in which operations had been performed on thin patients with but little subcutaneous tissue—particularly hernia and appendix operations—where the somewhat bulky knot formed by knotting the penultimate loop and the terminal end of the continuous suture uniting the edges of the superficial aponeurosis lay immediately under the cutaneous incision, the knot was ultimately extruded through the long-healed scar four and five weeks after the operation. This difficulty might easily have been obviated by using finer sizes of catgut than the Nos. 2 and 4 which I commonly employ, but, for reasons which I shall subsequently state, I preferred to continue to use the heavier material.

This objection of too long persistence in the tissues also applies to formalin catgut and sulpho-chromic catgut treated by the iodine method and stored in the iodine solution. I therefore returned to the use of ordinary raw catgut, and have used it continuously for three years. Prepared and stored in the way I have described it has proved exceedingly satisfactory. Even after nine months it has been found quite as strong as when first prepared; clinically, I have had no reason to doubt its asepticity. Its surface is perfectly smooth, and it has just a sufficient

degree of rigidity to render it easy to handle and to thread into the needles, and the knots are, I think, more secure than with any variety of wet catgut.

Except for sutures in the mouth I always use it dry, the glass slip carrying the catgut being simply tilted out of the tube on to the instrument tray. In the mouth, however, iodine catgut seems to cause an undue amount of pain, therefore when any intra-buccal operation is in view the catgut is placed in sterile salt solution to wash out the excess of iodine.

The sizes I use are Nos. 0, 2, and 4. No. 0 when a great number of small ligatures is required, No. 2 for the peritoneum and most ligatures, No. 4 for muscles and aponeuroses. More and more, however, I find myself using No. 2 only for all purposes, and obtaining any desired variations in additional strength by multiplying the number of strands—three strands for ligating a pedicle, two strands for the abdominal aponeuroses, one strand for ordinary ligatures, etc.

These sizes seem unnecessarily large, and were it a question simply of the material being strong enough to withstand a certain tensile strain, that would be true, but there are other important factors to be considered.

The first is the lack of uniformity in the standardization of catgut. The various sizes correspond to no definite gauge. I have made some measurements to determine the thicknesses of various samples, taken by chance, from the stock of unprepared catgut which happened to be in my possession. The nominal sizes were Nos. 0, 2, 4, and 6. The instrument I used for the measurements was an ordinary Imperial Standard wire gauge. No. 6 catgut was fairly uniform, about 21 w.g. No. 4 catgut varied from 22 w.g. to 24 w.g.; in one packet, supposed to contain No. 4, samples measuring 22, 23, and 24 w.g. were found. No. 2 catgut varied from 23 w.g. to 26 w.g.; specimens corresponding to 24 w.g. and 26 w.g. being found in the same packet. No. 0 catgut varied from 26 w.g. to something decidedly finer, which I could not measure, as the gauge does not go beyond No. 26; it would be necessary to use a micrometer to verify the thicknesses of the finer sizes. These variations in thickness of course correspond to enormous differences in tensile strength between various specimens which are nominally of the same size. These variations in thickness and in tensile strength entirely corroborate the statement of our theatre nurse, who, after having been blamed for getting her sizes mixed and for the occasional brittleness of the material, complained that the sizes put up in the same packet, and nominally of the same thickness, really varied enormously, the differences being perfectly obvious to the naked eye. A point which attracted my attention when making these measurements was that some dealers label their catgut No. — corresponding to — w.g., while others simply label it No. — and make no reference to the wire gauge to which the number is supposed to correspond, and it was further noticeable that the catgut belonging to the latter group, distinguished only by a number, showed a decided tendency to fall below the standard of thickness presented by corresponding sizes in the first group. I therefore think it would be advisable for any surgeons who are particular about the sizes they use to specify the wire gauge wanted rather than numbers, which apparently mean very little, when ordering their catgut.

Further, there are sometimes considerable variations in tensile strength owing to defects in samples of catgut of similar sizes. The tensile strengths of all materials are diminished when they are bent or kinked; this is notably the case with catgut, where a simple knot involves a very considerable diminution.

Catgut, especially the smaller sizes, tends to cut in the knots, even more than fine silk does; this is often the cause of breaking in cases where the material shows a quite satisfactory degree of resistance to a direct strain.

Of all materials used for surgical ligatures and sutures, with the exception of silkworm gut, catgut is the one in which the knots are most insecure. There is some difference, according to the variety of catgut, but all suffer from the same defect. Any one can demonstrate this for himself by tying two pieces of catgut together and then pulling on the long ends. If the catgut is fairly strong the knot is just as likely to slip as the material is to break, whereas with silk or linen the knot will always jam and the thread break if the strain is continued. The type of knot—surgical knot, reef knot, or granny knot—makes very little difference—one is just as likely to slip as the other; to my thinking the greatest security is obtained by tying the second turn of the knot very tightly, by adding a third turn to the knot, by using two finer strands rather than a single heavier one, and by leaving the ends fairly long.

For these reasons I think it is advisable to have a considerable margin of strength in the catgut employed, and, after all, the thickness is not of much moment if the material is soon absorbed.

With regard to the length of time plain iodine catgut lasts in the tissues, I am unable to speak very definitely; clinically I can say that I have no reason to think that it has in any case been absorbed too soon. When No. 2 dry iodine catgut was used experimentally as a skin suture to determine its resistance to absorption, the subcutaneous parts of the loops showed signs of erosion, but were still strong after fourteen days. In one case, where the abdomen was reopened on the eighth day, both No. 2 and No. 4 catgut were found to be perfectly distinct and strong. In another case, where the abdomen was reopened on the twelfth day, parts of both Nos. 2 and 4 were found to be still quite strong, but the sutures were so closely blended with the healed tissues that it was not possible without undue waste of time to follow them up. On the whole, I think that No. 2 plain iodine catgut lasts for about fourteen days in the tissues, and No. 4 for a few days longer.

To sum up, my experience of dry iodine catgut prepared and preserved as above described is:

1. It is aseptic.
2. Its tensile strength is satisfactory.
3. It remains aseptic and strong for years.
4. It is smooth, does not kink, is easily handled, and is easily threaded into the needles.
5. The knots are as secure as with any kind of catgut.
6. The iodine with which it is impregnated causes no trouble in the tissues.
7. It resists absorption for a sufficient time.
8. In private work it does away with the necessity for carrying about a jar containing iodine solution; I think that this is a decided advantage, although some very handy little jars with metal cases and spring caps to prevent leakage have been devised.
9. As each hank occupies a separate tube there is no possible risk of the stock being contaminated when taking out a portion for use; this is a point of considerable importance, in view of the absence of a protecting antiseptic solution.
10. The preparation is simple and easy.
11. It is not a good material for skin or intestinal suturing.

For a very thorough detailed account of the qualities of dry iodine catgut I would refer any one who is interested in the subject to the paper by Moschowitz which I have already mentioned.

At one time I tried the Salkindsohn catgut, but soon gave it up. If it lay for any length of time in the iodine spirit it became too hard; if when about to be used it was placed in water or an aqueous antiseptic solution, it quickly swelled, kinked, and became very elastic; and if not immersed in fluid, it became so dry and hard as to be unmanageable.

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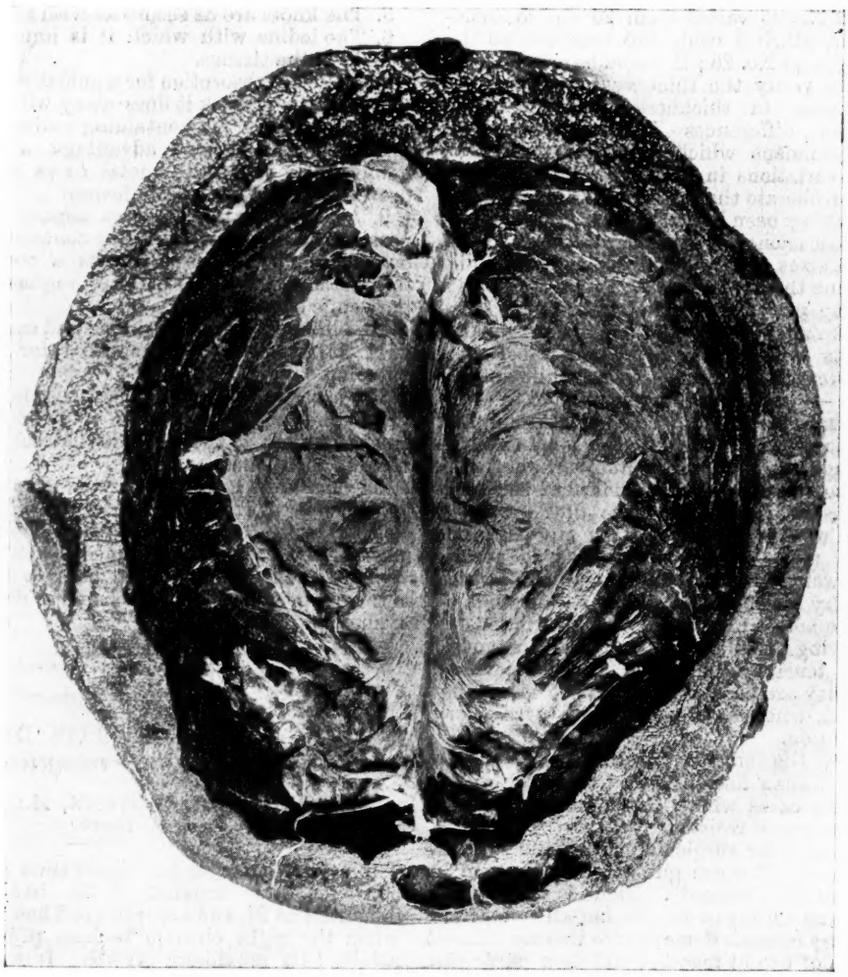
A CASE OF OSTEITIS DEFORMANS TERMINATING WITH CEREBRAL SYMPTOMS.

BY REGINALD G. HANN, M.R.C.S., L.R.C.P.,
LEEDS.

THE patient came under observation in 1902 at the age of 60. She was married at 22, had her only child (a daughter) at 24, and enjoyed good health until she was 40, when the right clavicle became prominent and rapidly attained its maximum growth. It caused no discomfort, and she paid no attention to it. At this time her limbs and body were undoubtedly perfectly straight. At 51 she began to ail, and from that time onwards was never in even moderately good health; she suffered from constant

headache and pain in the thighs, and her legs began to lose their shape and to bend, though the commencement of the enlargement of individual bones was not noticed.

As movement made her pains worse she gradually drifted into a bedridden existence. When first seen, in August, 1902, she was a dull and unintelligent old woman, always drowsy, spending her time in bed or on a chair without power to get about or any desire to occupy herself. Her surroundings were and had always been of the poorest. The outstanding feature of the case was the widespread alteration in size and shape of the bones. In the head the enlargement, which was very marked, affected the cranial bones and not the facial; the maximum circumference of the skull was 25½ in., and from one external auditory meatus over the vertex to the other was 15 in. In the spine there was an extensive dorsal kyphosis. The right clavicle was enlarged, as is well shown in the photograph. The spines of both scapulae and the left ulna in its upper part and parts of the pelvic brim were all thickened and stood out prominently. There was a projection of the right side of the chest due to enlargement and bending of two or three ribs. Both femora and both tibiae were greatly thickened and bent forwards and outwards, producing a condition of bow leg so extreme as to make it impossible to stand without crossing her feet. There was no tenderness of any of the affected bones, unless it might be of the tibiae, but as the legs were always oedematous it was not easy to be sure that the discomfort caused by pressure was due to tenderness of the bone.



The arteries were rigid and tortuous. The skin was persistently moist, and had a tendency to sweat profusely without obvious cause. The hair was plentiful and in good condition. An appearance of slight anaemia was scarcely supported by the result of an examination of the blood by Dr. Chaplin, who reported the red cells to be 4,300,000 and the white cells 7,510 per c.mm., the haemoglobin being 87 per cent. (Gowers's method). Taste and smell were normal; the sight and hearing were bad, and her memory had failed.

Dr. Chaplin also examined the urine, and reported that it contained no albumen, casts, or sugar. The chlorides, sulphates, and phosphates were normal. Indican was present.

Total solids by Christison Tyson's formula, 46.6 (500 c.cm. examined). Quantitative estimate of urea:

$$\frac{20 \times 53.5}{354} = 3.002 \text{ urea per cent.}$$

Reaction acid; specific gravity, 1020.

During the subsequent years of her life no noticeable alteration in the bones took place, except in those of the head; its circumference increased from 25 in. in August, 1902, to 25⅞ in. in October, 1905, the increase being largely due to an outgrowth which filled up the right anterior temporal fossa. During the whole of the time the headache was constant and severe, and never relieved by drugs. She gradually deteriorated mentally and physically, and during the summer of 1905 was found one morning by her relatives unconscious in bed. She is said to have remained in this state for the next few weeks, quite oblivious to her surroundings, making no effort to speak or to feed herself, and having no control over the rectum or bladder. Then improvement slowly set in, and she recovered the power of speech and began to recognize her relations. The incontinence ceased. She is said to have had a similar seizure a year later and recovered, though perhaps not so fully; and, finally, on January 5th, 1907, she became comatose, and remained so until her death on January 7th. In this last illness there was no palsy or alteration of reflexes. Unfortunately she was not under medical observation during the first two attacks.

The *post-mortem* examination was limited to the head

and right clavicle. The vault of the skull was very vascular, very soft, and removed with great ease by the saw. The dura mater was adherent at the vertex for about 2 in. on either side of the falx cerebri, and was removed with the skull-cap. The thickness of the calvarium for the most part was from $\frac{3}{8}$ in. to $\frac{7}{10}$ in.; just behind the right frontal region it measured 1 in., and in the occipital bone varied from $\frac{4}{5}$ in. to $\frac{9}{10}$ in. Both inner and outer tables had increased in thickness, while the cancellous tissue was not particularly altered, except at the two places just mentioned as the sites of greatest expansion, where it shared in the general enlargement. The sutures were not obliterated. The inner surface of the vault presented a striking appearance. The posterior half was, generally speaking, smooth, but the channels for the vessels, which were unusually numerous, were very conspicuous and much deeper than normal. The anterior half presented a congeries of confluent flattened bony bosses, varying in size from that of half a walnut shell to a pea; these were particularly well marked in the frontal bone on either side of the longitudinal sinus; there was no definite symmetry in their arrangement. The right frontal sinus, which was of considerable size, had been opened by the section. The dura mater was much thickened, especially along the vessels. A portion of it and of the falx has been preserved with the calvarium, to which it was very adherent. The thickening was very marked, and was irregular in amount and distribution. Thick fibrous bands stand out upon its inner surface.

The clavicle on section showed the central medullary canal obliterated by coarse rarefied bone. Patches of medullary tissue persisted towards the extremities, where it was broken up by similar coarse trabeculae. There was considerable subperiosteal thickening of the shell of the bone, which had largely lost its compact structure.

The brain was normal in size, and on section showed no signs of any gross lesion. The blood vessels were comparatively good.

Dr. S. G. Scott, who prepared and examined sections of the bone, reports as follows:

Sections through the skull in the parietal region show a thin layer of bone arranged parallel with the fibres of the periosteum. The inner parts of the section are composed of regular trabeculae of bones surrounded by connective tissue composed of delicate fibrils and no great number of cells. Blood vessels are abundant in it, and are continuous through holes in the outer layer of bone with those of the periosteum.

At the edges of the bony trabeculae, often in shallow depressions (Howship's lacunae), are a good many cells, some of them myeloplaxes which are presumably osteoclastic in function. Marrow is scanty, but cellular and fatty marrow is seen in the inner parts of the bone here and there. These appearances appear to coincide with the usual descriptions of the disease, and, with one exception, do not traverse the accepted views of the morbid process—namely, that there is a formation of soft new bone, mainly from the periosteum, and a great widening of the Haversian canals by absorption of pre-existing and new-formed bone.

The exception is the use of the termination "itis." There is no evidence of inflammation in this specimen, and in the descriptions I have met with the evidence appears equally scanty. Histologically this specimen is no more inflammatory than is a normal growing bone, but the term "osteitis deformans" is so well established that nothing would be gained by suggesting an alteration of nomenclature.

Notwithstanding this expression of opinion of Dr. Scott's the writer feels strongly that the changes in the dura mater which were such a conspicuous feature in the case would be generally regarded as inflammatory, and very probably may have had a close connexion with the cerebral symptoms and the mode of death.

THE Council on Defence of Medical Research of the American Medical Association has recently issued five pamphlets which should serve to enlighten public opinion in regard to the value of animal experimentation. The following are their titles with the names of the authors: (1) *Vaccination and its Relation to Animal Experimentation*, by Dr. Jay Frank Schamberg of Philadelphia; (2) *Animal Experimentation and Tuberculosis*, by Dr. E. L. Trudeau of Saranac Lake, N.Y.; (3) *The Rôle of Animal Experimentation in the Diagnosis of Disease*, by Dr. M. J. Rosenau, director of the Hygienic Laboratory of the United States Public Health and Marine Hospital Service; (4) *Animal Experimentation and Cancer*, by Dr. James Ewing of New York; (5) *The Ethics of Animal Experimentation*, by Professor James Rowland Angell, head of the Department of Psychology of the University of Chicago.

THE DEVELOPMENT AND MALFORMATIONS OF THE GLANS AND PREPUCE.

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IT is by no means uncommon to find in the newly-born male child that the prepuce cannot be retracted from the glans of the penis.

In performing the operation of circumcision upon infants this condition is frequently met with, and it is spoken of as congenital phimosis or "adherent prepuce." Further, in a very large proportion of all newly-born children some "adhesions" have to be broken down before the prepuce can be retracted from the glans.

Some degree of "adhesion" is normal, and in regarding such adhesions as being the products of inflammation—or as anything other than entirely natural processes of development—an incorrect idea is gained of the condition, and an interesting page of embryology is overlooked.

These "adhesions" are the outcome of the normal method of development of the glans and prepuce, and the misconceptions concerning them result from the incorrect accounts of the development given in most textbooks. Put briefly, this incorrect account describes the tip of the genital tubercle as being the glans of the penis, and pictures the prepuce as growing forwards over it as development proceeds. The prepuce is therefore regarded as a hood-like fold of integument which grows over a previously exposed glans.

The state of affairs as actually seen in embryos at various stages is entirely different to that just pictured; for the tip of the genital tubercle is a skin-covered papilla, within which the future glans is sculptured out by the invasion of a mass of epithelial cells. A correct account of the process was given by Dr. Berry Hart when he first described the curious phases in the development of the genital passages, and more recently he has gone into the question in more detail[1] and has figured the changes which take place in the glans and prepuce of the fetus. In 1902, without being acquainted with Dr. Berry Hart's paper, I described and figured the process of development of the same parts, and in the BRITISH MEDICAL JOURNAL of December 17th, 1904, I briefly mentioned it. In all respects my results were the same as those previously arrived at by Dr. Berry Hart.

Since the whole process of the development of the external genitalia wears a somewhat different aspect when this method of formation of the glans is accepted, it will be well to recapitulate briefly the various stages seen in the developing embryo.

1. The genital tubercle appears as a little papilla raised from the general surface of the skin (Fig. 1).

Fig. 1.—The genital tubercle, showing the urethral groove and inner genital folds confined to its base.

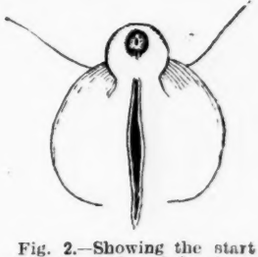

Fig. 2.—Showing the start of the formation of the glans. In the female the glans is early exposed owing to the spreading apart of the inner genital folds.

2. The inner genital folds mark the edges of the urethral groove, and it is to be noted that the tip of the genital papilla is never invaded by the urethral groove. It is knob-like, and is free from the lines of the inner genital folds. This is the portion of the genital tubercle wrongly called the glans (Fig. 1).

3. In the female the inner genital folds remain open, and when the epithelial ingrowth takes place at the tip of the genital tubercle, the glans which is formed with it soon becomes exposed (Fig. 2).

4. As the inner genital folds become more widely separated in the growing female fetus the glans becomes

freely exposed within its prepuce. A like condition of congenital paraphimosis is developed in males born with any degree of hypospadias. The inner genital folds in the female form the labia minora, but the prepuce of the clitoris is formed quite independently by the ingrowth of

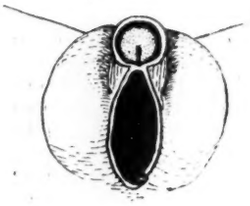

Fig. 3.—Showing the fate of the inner genital folds in the female, and the independent formation of the prepuce of the clitoris from the skin of the tip of the genital tubercle.

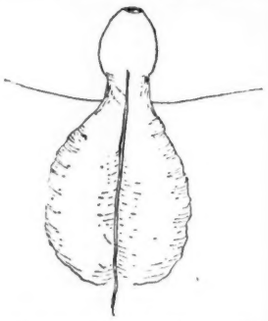

Fig. 4.—The condition in the male. The inner genital folds have met and formed the raphe, which does not extend to the tip of the penis.

the epithelial mass into the tip of the genital tubercle (Fig. 3).

5. In the male the inner genital folds meet in the middle line to form the raphe, which does not extend to the tip of the genital tubercle. The genital tubercle

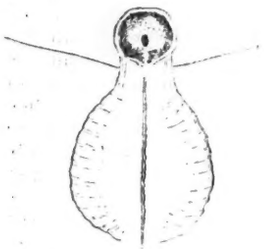

Fig. 5.—The condition in the male when the glans is completely formed and the prepuce is retracted.

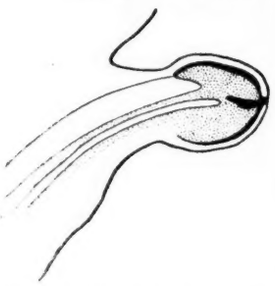

Fig. 6.—Section of the genital tubercle of the male. The dark mass represents the epithelial cell mass which has sculptured out the glans, prepuce, and terminal part of urethra, but has not yet broken down.

remains as a skin-covered papilla, swollen at its distal end (Fig. 4).

6. Into the distal end of the genital tubercle the epithelial cell mass grows, and it sculptures out the glans from the overlying skin. The cell invasion also burrows into the glans itself, and forms the urethra (at first as a solid plug) within the glans (Fig. 6). In the female fetus

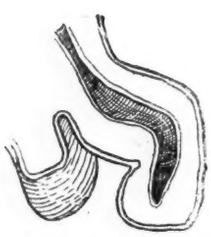

Fig. 7.—Section of the penis of a full term male fetus in which the terminal ingrowth of epithelial cells to form the glans and distal portion of the urethra has altogether failed to develop.

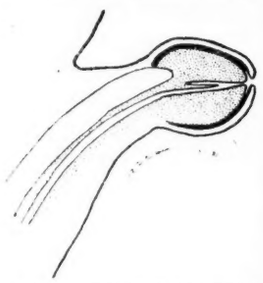

Fig. 8.—Section of the penis of M. H. at birth. The glans is free from the prepuce over a very small area in front, in all other parts it is still fused with the prepuce. The terminal part of the urethra is formed. Normal fetal condition.

a similar invasion to form the distal portion of the penile urethra takes place, but it ends blindly, and later on it disappears.

7. The terminal portion of the urethra is hollowed out, and the prepuce set free from the glans, by the breaking down of the central cells of the invading solid plug. (Fig. 8.) The urethral plug is broken down by the seventh month of fetal life, and the fossa navicularis and lacuna magna are formed; but by this time the separation of the prepuce is scarcely begun. The breaking down of the preputial plugs is frequently not completed at birth. In a monkey at full term the corona is still occupied by a solid mass of cells, and the prepuce is only liberated in its fore part.

This normal method of formation may be arrested at any point.

1. The epithelial plug may altogether fail to develop and to invade the tip of the genital tubercle. In such a case (Fig. 7) no glans or prepuce is ever formed, and the portion of the urethra distal to the urethral groove is altogether wanting. Such is the condition of simple imperforate urethra, comparable to a case of imperforate anus. In the example figured the kidneys were functionless, and no distension of the urinary passages had taken place.

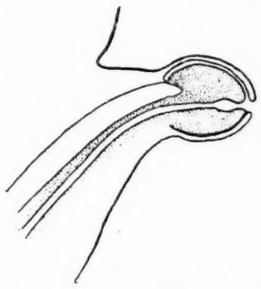

Fig. 9.—Section of the penis of W. B., aged 54. The prepuce is free above; but below, the division between glans and prepuce has never taken place.

2. The epithelial ingrowth may be developed, but may fail to break down in whole or in part. In such a case (Fig. 8, M. H.) it is impossible to retract the prepuce, for no glans—in the ordinary sense of the word—is developed. The urethra opens upon the tip of a skin-covered genital tubercle. This is the normal condition at about the sixth month of fetal life. In lesser degrees of this malformation the prepuce may be free above but firmly blended with the glans below; such a case (W. B.) is figured in Fig. 9.

3. Without any failure in development, the epithelial plug may invade the glans in a variety of ways, so causing variations in the position of the urethral orifice; or it may meet the proximal part of the urethra at a variety of angles, so causing sinuses and diverticula about the lacuna magna (Fig. 8.)

REFERENCE.
1 *Journ. Anat.*, vol. xlii; fourth series, vol. i.

PRIMARY EPITHELIOMA OF PENILE URETHRA.

BY WM. ERNEST PEACOCK, M.D.DURH.,
STEEPLE ASTON, OXFORD.

As I have been unable to trace the record of a case similar to the following—that is to say, an instance of penile epithelioma inside the urethral canal—the case seems worthy of record on account of its extreme rarity alone.

On August 6th, 1907, a man, aged 74, complained of indefinite pains in the lower abdomen, back, and rectum. He was of gouty habit. The urine did not contain albumen, but there was excess of urates.

History.—He had suffered from the pains for two or three months, and when in London in July, 1907, had consulted a physician, who thought his symptoms were due to some growth in the bladder, and advised cystoscopic examination, but this was refused.

In September, in addition to the pains "across the bladder," he had some soreness and pain on micturition, with irritation round the glans penis. A discharge around, and the moist condition of the glans, was found to be due to a secretion of the coronary glands. The urine was carefully examined for sugar, which is a cause of discharge sometimes in old people, and has been mistaken for gonorrhoea. A catheter (No. 14 English) was passed quite easily, and nothing abnormal found in the bladder or urethra. A mixture of potassium bicarbonate, urotropine, and potassium bromide relieved the pains a good deal, and the balanitis was treated with a mild mercurial ointment and a starch powder, with calomel.

The patient continued to complain of the pains in the lower abdomen and back, sometimes of a shooting character and occasionally quite acute. I could detect nothing abnormal in the abdomen nor on rectal examination. The sphincter was, however, a little tight, and I believe during defaecation sometimes the muscle was in a state of spasm due to reflex irritation. This condition recalls a note from Mr. Heath, made in my student days, of the sympathy existing between the rectum and the urinary apparatus, and recalls, too, several instances in

which glandular swellings appeared in the groin synchronous with disease round the sphincter ani.

On November 5th Dr. Osler saw the patient in consultation and gave his opinion that there was no abdominal tumour. Nothing abnormal was found in a specimen of urine examined at the time at a clinical laboratory. I came to the conclusion that the balanitis was perhaps of gouty origin and that the pains were from a similar cause, probably angio-spasm.

The pain during micturition gradually increased and the urethral canal became narrower, so that instead of being able to pass No. 14 catheter easily, gradually only No. 7 could be passed. No actual stricture seemed present, but the desire to micturate or the passage of urine or a catheter seemed to cause a spasm of the urethral canal. On external examination no thickening of the penis could be felt in the region corresponding to the spasm about one inch from the urethral orifice.

I began to suspect a carcinomatous condition of the canal, and yet nothing could be felt to warrant the diagnosis, and there were no enlarged glands in the groin. Two years previously I had removed an epithelioma from his lip, and his father was said to have died of cancer. Mr. Parker of Oxford saw the patient, and agreed that there was probably some malignant disease present. The spasm and pain became so severe that I induced him to allow me to remove half of the penis.

Operation.

On January 31st, 1908, under a mixture of chloroform and ether, given by Dr. Duigan, the root of the penis was surrounded by an indiarubber band. A large anterior and a short posterior flap were dissected off. The urethra was separated for half an inch from the corpora. A horizontal slit was made in the anterior flap and the urethral canal brought through it. This in turn was split longitudinally, and the superior half stitched with a suture at each end to the upper half of the skin, and the lower half was treated similarly. The two skin flaps were united posteriorly, as in Teale's operation on the leg. A catheter was passed into the bladder, and kept there for three days. An uninterrupted recovery took place. To prevent retraction of the urethral orifice I made the patient pass a catheter through the orifice two or three times daily. He is now well, nearly two years after the operation, and has gained weight. He enjoys gardening, hunting, and shooting, and can walk some distance without fatigue. He suffers no pain and passes urine freely. I devised a small funnel with perpendicular sides which he carries about with him in his pocket; with it he can pass urine without wetting his clothes.

Specimen.

The specimen was put into 10 per cent. solution of formalin, and examined in the Pathological Department of Oxford University by Dr. A. Gibson, who reports as follows: "On examining the urethral canal there was, about three-quarters of an inch from the meatus on the dorsal side, an area slightly depressed in the centre, just perceptibly raised at the edges, which looked like a contracting cicatrix. On section of this area, the epithelium outside the ring, on tracing it towards the centre, became less regular in its structure, and apparently thinner, but on more careful examination by the high power numerous downgrowths of strands of epithelial cells could be seen. In the neighbourhood of these there was some increase of inflammatory round cells. The condition was undoubtedly epitheliomatous."

The early appearance of abdominal pain and its preponderance for so long a period was an interesting feature; also the spasmodic contraction of the canal with so small a lesion in the urethra. Two or three medical men who had passed the catheter through the offending portion were astounded at the small pathological lesion presented to the naked eye after slitting up the urethra; in fact, it was only found after careful examination. The early appearance of balanitis without urethral discharge until the later stages is of great interest, also the absence of enlargement of local glands.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

IS PONOS KALA-AZAR?

DR. G. A. WILLIAMSON, in the paper published in the BRITISH MEDICAL JOURNAL of September 18th, 1909, p. 781, suggests the name of "ponos" for this form of infantile disease. In the discussion which followed in the Section of Tropical Medicine Dr. J. L. Maxwell said he had seen the adult form in Formosa, and Mr. J. Cantlie drew attention to the presence of cancrum oris in "ponos" and kala-azar, but remarked that its etiology was a moot point. I have been in North China for five years, but have never seen a case of kala-azar in an adult, whilst I have in my out-patient clinic from 20 to 40 cases during the year in children. As I only know it in children, I cannot say in what points it differs from the adult form. I had occasion to open a discussion on the subject at the North China Medical Association annual meeting this year, and, whilst a great many doctors present had not known the disease under the name of "kala-azar infantum," most were familiar with the enlarged spleen, anaemia, diarrhoea, and necrosis of mouth so typical in these cases. This association represents medical missionaries from the provinces of Chili, Shantung, Shansi, Honan, and Manchuria, so that the disease may be fairly assumed to exist in North China as a whole. The men from Shantung remarked on its prevalence.

As we see it here the chief features are:

1. *Age.*—Always in children, rarely under 2 years, and never over 10.
2. The *spleen* is enlarged in all cases: the majority, when first seen, have a spleen at or below the umbilicus, and, in late stages, almost to the pelvis.
3. *Gastro-intestinal symptoms*, during the earlier months, are irregular; diarrhoea more or less frequent, but in the later stages constant and very severe.
4. *Great debility* in most cases, but the cachexia is not pronounced until after the so-called cancrum oris is well advanced, and I always attribute it to septic absorption, and probably this is the cause of the dysentericus of the later stages.
5. *Fever.*—On this point I cannot state definitely its course, because I only see them as out-patients. I have never been able to persuade a mother to come into hospital with her child, but my opinion is that it is irregular and intermittent, in the earlier stages, according to the description of the parents.
6. *Cancrum Oris.*—Under this heading my cases differ from what I take to be the true meaning of cancrum oris. I have never seen a case start in the *cheek*, but always in the upper or lower central incisors. Some describe the condition as a "gingivitis," but this I have not seen as a primary condition. It seems to commence at the roots of the incisor teeth and in the alveolar bone, and within a week or ten days the teeth drop out, leaving a black sloughing bone underneath; but so insidious and slow is the process that the gums are rarely inflamed, and even when the necrosis becomes so extensive as to affect the cheeks there is little or no surrounding area of inflammatory redness. In one case the whole of the left lower jaw was removed piecemeal back to the angle; and in another severe case there was complete necrosis of the upper jaw to the orbits on both sides, including the nose and anterior nares. How prevalent the disease may be amongst children I cannot say, for the parents do not bring them for treatment until the necrosis has commenced, and the putrid odour of the child's breath is the first thing they mention.
7. *Mortality.*—Every case dies, and our treatment is of no avail.

I can say little as to etiology. The frequency with which I noticed this necrosis in the central incisors naturally suggests a syphilitic origin; but it is very difficult to get any reliable history from the mothers, and, on the other hand, there is a very large amount of syphilis amongst men. Treatment with mercury (hyd. c. creta) over long periods had no effect. I gave up the malaria idea, because we have comparatively little malaria in North China, and I have never seen a case of kala-azar in an adult. The bug theory of transmission I also laid aside, for, whilst Chinese houses teem with bugs, why are only children affected? I have examined bugs brought from the houses of infected children, but so far have not found the Leishman-Donovan bodies.

I have not punctured a spleen, for the reason that I have not had a case as an in-patient; and being warned of the not infrequent rupture following this procedure, I have hesitated, knowing that I could not ensure proper rest afterwards in a recumbent position.

The Leishman bodies have been obtained by Dr. Lillie Saville of Tientsin by a blood smear from the peripheral circulation in the very late stages of the disease. What I consider a point of importance is that Dr. Lillie Saville has seen cases in which the necrosis or cancrum oris preceded the enlargement of the spleen. I have not seen such a case.

The anaemia, which is marked in the prenecrosis stage, becomes very profound afterwards, mucous membranes being blanched. I have not noticed or heard from parents of epistaxis or haematemesis; but purpura is frequent in the very late stage, as is also haemorrhage from the bowel in the form of dysentericus.

Speculatively, I am strongly in favour of inherited syphilis as the cause of the disease, and intend in future to push some of the arylarsonate compounds and note their effect.

W. H. GRAHAM ASPLAND, M.D., C.M., F.R.C.S.E.
The Church of England Mission Hospital, Peking.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

HULL ROYAL INFIRMARY.

A CASE OF RUPTURED GASTRIC ULCER: SUTURE: PRIMARY GASTRO-ENTEROSTOMY: RECOVERY.

(Reported by Edward Harrison, M.A., M.D, F.R.C.S., Honorary Surgeon, Hull Royal Infirmary.)

In reading *The Surgery of the Upper Abdomen*, by Deaver and Ashhurst, published this year, I was surprised to learn that only 22 cases had been recorded in which gastro-enterostomy was employed as a primary operation in cases of perforated gastric ulcer. At the time of the operation I was under the impression that in all cases of perforated gastric ulcer, if near the pylorus, or if any difficulty was experienced in the suture, it was customary to do gastro-enterostomy. I did not regard the case as one worth publishing, but as the number of cases hitherto reported is so small, it seems a duty to record this one.

E. B., aged 22, domestic servant, was admitted on November 22nd, 1907, at 9 p.m., under the care of Dr. Eve.

History.

There was a previous history of indigestion, and on the day previous to her admission at 11 a.m., while she was scrubbing a floor, she was seized with sudden and intense abdominal pain, so that she fell, and was unable to continue her work. She did not faint or vomit.

Condition on Admission.

The pulse was 140; liver dullness was present; the epigastrium was very tender and rigid, although she had had 2 grains of opium. The percussion note in the left epigastric region was impaired but not absolutely dull; she had an anxious look.

Dr. Eve sent for me at once, having diagnosed ruptured gastric ulcer.

Operation.

At 10.30 p.m., nearly thirty-six hours after rupture, the abdomen was opened above the umbilicus to the left of the middle line. Some lymph was seen on the anterior surface of the stomach near the pylorus, but no rupture was discovered. Further exploration revealed a mass of lymph on the anterior surface near the cardia, and to this the liver was adherent.

In order to obtain better access to this a lateral incision was made through the skin, rectus muscle, and the cartilage of the rib, and a search made for the opening in the stomach.

The rupture was not seen, but a couple of ounces of stomach contents welled up. The whole of the infected area was then inverted with a double row of Lembert sutures, and as I did not feel satisfied that a perfect closure had been made, and as the condition of the patient was no worse, I determined to perform gastro-enterostomy. This was done in twenty minutes, and at the conclusion the patient became collapsed, and ceased breathing. Strychnine 20 minims and adrenalin 10 minims were administered hypodermically and the wound hastily closed, with a stab drain in the loin, and an anterior drain in the upper part of the wound. Saline infusion was attempted, but the vein was too small to admit the cannula. On her return to bed she was infused subcutaneously, and her pulse improved.

Progress of the Case.

The next day she was greatly improved; she had had no vomiting, and complained of nothing but thirst. She was given frequent rectal injections of saline and mouth washes. The thirst, however, was so great that she contrived to imbibe the contents of a hot-water bottle given her to relieve alleged pain in the side.

The drains were removed on the third day; the temperature varied from normal to 101°.

On December 4th the temperature was normal, and remained so for five days, after which it again rose. The wound was still discharging, and she had an up-and-down temperature from subnormal to 101.

On January 3rd, 1908, the sinus was explored and scraped, with little benefit. This was done again on January 13th, and a tube inserted. A day or two after this there was some faecal extravasation, which I thought was due to the pressure of the tube. This was removed, and the faecal fistula soon healed.

She was put on the balcony and then developed a cough, and expectorated nummulated sputum, and I feared that she was phthisical. On February 19th it was found that she had an empyema on the left side. This was opened and drained; the temperature then became normal, and the wound healed. She was discharged to the convalescent home at Withernsea on March 13th.

On December 31st, 1908, I met her in a tramcar, and she told me that she was quite well, and could eat and digest her food better than she was ever able to do, and was at work.

Reports of Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Wednesday, January 5th, 1910.

Dr. Byrom Bramwell, President, in the Chair.

Syphilis and Marriage.

Dr. C. W. MacGillivray, in opening a discussion on syphilis and marriage, said that the physician in charge of a syphilitic man, married or about to marry, had not only to cure the disease, but also to prevent contagion and hereditary transmission; and in connexion with the latter the question of maintenance of medical secrecy was sometimes seriously raised. The crucial question was—When could a man with syphilis safely marry? Fournier, at the last, had urged six years' treatment. His own view was that a period of four years from the chancre was sufficient, provided the man was then healthy and had been vigorously treated. He described the varieties of maternal syphilis, and insisted on the importance of treatment in mitigating, and even in preventing, the transmission of paternal syphilis to the fetus. Dr. Clouston said that in children a form of idiocy with epilepsy was due to hereditary syphilis. There were also the cases of developmental general paralysis, which were undoubtedly syphilitic. With regard to general paralysis in adults, in the great majority of cases there was precedent syphilis, but a causal relation was not established. It was a routine practice to begin the treatment of general paralysis by antisyphilitic measures. The few cases that thereby recovered were most probably of brain syphilis, which could closely simulate general paralysis. He was hopeful that fuller knowledge of the *Spirochaeta pallida* would increase their powers of diagnosis and treatment. Dr. Haultain said that he was sceptical with regard to Colles's law. In those cases the mothers were not syphilitic. There was paternal syphilis and fetal infection; and the benefit of mercury was not wrought on the syphilis of the mother but on that of the fetus, by way of the placental circulation. The high solubility of the mercurial perchloride made this the more probable. Professor Caird said there were no accurate statistics in this country, but believed that the greater efficiency of treatment nowadays had saved many lives, both of the patients themselves and of their offspring. Dr. Cranston Low said that the experiments of Metchnikoff and Roux on monkeys showed that vigorous treatment made early reinfection possible. Mr. Hodsdon cited a case of his own which, after very thorough treatment, showed a second infection two years after the first, special care being taken to verify both diagnoses. Mr. Miles quoted the most recent opinion of Jonathan Hutchinson that marriage could be permitted after two years' efficient treatment. A longer period of celibacy was no doubt advisable, but it was a counsel of perfection. Dr. James Ritchie said that his rule was two years' thorough treatment, followed by a year without treatment and without symptoms.

Phthisis and Arylarsonates.

Drs. LUNDIE and R. H. BLACKIE read a joint paper on the treatment of phthisis and other conditions by the injection of arylarsonates, which will be published in full. With reference to one of the cases recorded, in which blindness was induced, Dr. G. BERRY described the difference between tobacco poisoning, which produced a central scotoma, and the example, which began as a peripheral amaurosis. It was to be hoped that some other arylarsonate might be discovered which might have the general effect of soamin without its local action on the visual nerve apparatus.

Cremation.

Dr. W. G. AITCHISON-ROBERTSON, in a lantern demonstration on cremation, pointed out the value of cremation from many points of view—sentimental, hygienic, and economic.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Friday, December 17th, 1909.

J. LENTAIGNE, P R.C.S I., President, in the Chair.

Malignant Disease of the Colon.

MR. E. H. TAYLOR having read a paper on the operative treatment of malignant disease of the large intestine, Sir THOMAS MYLES concurred as regards the difficulty of effecting an anastomosis when a large area, starting from the splenic flexure to the upper part of the rectum, had to be removed. In some cases the lower end of the ileum might be attached to the upper end of the rectum, or the transverse colon implanted on to the rectum. The difficulty of bringing the mobilized colon into the pelvis varied greatly. The paper had borne out what had been observed clinically—that in certain cases of removal of the lower bowel, when they got above a certain point, it was better to remove more and get a mobile colon than to bring down the upper part of the rectum. The PRESIDENT recalled a case which supported Mr. Taylor's remark—that the whipcord form of cancer of the rectum was most amenable to surgical treatment, and least likely to give trouble by recurrence in the glands at an early stage. Mr. TAYLOR, in reply, said that even if no glands could be found diseased he thought the complete operation should be carried out. One was not justified always in concluding that because a gland was enlarged it was therefore malignant. If they had reason to believe that some of the secondary glands were involved the hope of radical cure was not great, as the chances were that the main glands would also be diseased. The disease might to some extent be septic, in which case one was justified in giving the patient the benefit of a radical operation. Where the glands were found diseased along the inferior mesenteric artery, the chance of a radical cure would be absolutely *nil*. In the case of cancer low down in the pelvic colon, what to do with the upper end was a great difficulty. To leave the patient with an artificial anus in the iliac region was the safest procedure. At the same time one would readily adopt any other method that would restore continuity. The operation of drawing down the bowel was extremely grave and the mortality was appalling.

Ethmoidal Suppuration and Trigeminal Neuralgia.

Mr. OLIVER GOGARTY narrated a case of suppuration of the ethmoidal cells, with symptoms of trigeminal neuralgia. A man, aged 31, had been suffering for thirteen years from left side facial neuralgia of epileptiform type. The attacks were frequent and often recurred several times in an hour. For nine months he lived on fluids alone, being unable to masticate. He described sores on the palate. In 1902 all the teeth, though sound, were removed above and below from the left side. Later the infra-orbital nerve was resected. He would not submit to removal of the Gasserian ganglion. In 1907 he was sent to Mr. Gogarty to exclude possible involvement of the accessory sinuses. Transillumination revealed nothing. There was no atypical hypertrophy in the nose. On the antrum being washed out a streak of pus was found. Both antrum and frontal sinus were sound. It was decided to open the ethmoidal cells. Pus came away freely when this was done. Subsequently necrosed bone and débris were removed. There had been no recurrence of neuralgia since March, 1907. In reply to observations, he added that his method of dealing with the case was as follows: The anterior third of the middle turbinal bone was removed with Grünwald's scissors and Stoerk's snare, and the superior margin of the cut surface punched away to the lamella with a conchotome. Five days later a sharp curved knife (Hajek's hook) was pressed against this, turned into the ethmoidal cells, and pulled downwards; pus at once came into view, and was followed up with a conchotome. The anaesthetic was local—40 per cent. of cocaine solution. No tampon was introduced, the anterior naris being plugged with cotton-wool and the patient warned against blowing his nose. The case probably began with influenza infecting the frontal sinus, the decomposition in the confined space breaking down the septa and giving rise to the empyema.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

Wednesday, January 5th, 1910.

Mr. A. FULTON, President, in the Chair.

MR. KENNETH BLACK, in a paper entitled *Surgical Odds and Ends*, dealt with the value of *x* rays in detecting needles, bullets, and other foreign bodies embedded in the tissues. Small foreign bodies frequently altered their positions; the *x*-ray examination, to be of use, should immediately precede the operation. He demonstrated two medico-legal specimens, the first showing a knife blade embedded in the cervical canal between the axis and the atlas, and dividing the spinal cord; and the second showing a portion of the left fifth rib with a portion of the skin and a bullet. Among curious sequelae to the Workmen's Compensation Act was a case of renal calculus ascribed to an abdominal injury 2½ years previously. By *x*-ray examination the author had detected several curious accidents: one was a fractured fourth cervical vertebra quite unsuspected for several months; another was an unsuspected fracture of the radius in a medical man from a back-firing motor.

MEDICAL SOCIETY OF LONDON.

PATHOLOGICAL MEETING.

Monday, January 10th, 1909.

SAMUEL WEST, M.D., F.R.C.P., President, in the Chair.

THE following were among the exhibits:—Dr. F. PARKES WEBER: The heart from a case of *Chronic malignant endocarditis* simulating splenic anaemia. There was old thickening of the mitral valve, and adherent to one part of the valve was a soft organized thrombus of about the size of a hazel nut. In the left auricle, and apparently growing from the interauricular septum, was a large polypoid excrescence, which measured about 70 mm. in length and about 35 mm. in breadth. It was attached by a short circular pedicle about 7 mm. in diameter to a spot in the interauricular septum about halfway between the thrombus on the mitral valve and the (closed) foramen ovale. The free end of this polypoid excrescence, which was evidently an old organized thrombus, was opaque, white, and hard, its surface feeling as if it were partially calcified. The patient was a sailor who after contracting malaria abroad developed an enlarged spleen, and had been treated at several hospitals in London, where the diagnosis of splenic anaemia was made. Dr. DE HAVILLAND HALL said that the disease was not based on very sure evidence, and some scepticism was warranted in doubtful cases of so-called splenic anaemia. Dr. PORTER PARKINSON described a case of *Malignant endocarditis* in which during life leucopenia was noticed, and the CHAIRMAN pointed out the difficulty introduced by the fact that malignant endocarditis might be a secondary infection. Dr. LEONARD GUTHRIE and Dr. W. D'ESTE EMERY: *Hypernephroma*, with tumours of both optic nerves and hydrocephalus, associated with obesity and signs of precocious development. Dr. Guthrie described 12 cases of precocious development associated with the condition. Dr. W. D'ESTE EMERY and Dr. LANGMEAD: A specimen of *Honeycomb lung*.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.

Tuesday, January 4th, 1910.

Mrs. Dickinson Berry, President, in the Chair.

A resolution was passed expressing the regret of the Association that the Board of Management of the Manchester Infirmary had decided that medical women were ineligible for the resident appointments at the infirmary. Dr. Jane Walker, in a paper on *Crime and punishment* in this country, said that the objects of punishment were (1) the infliction of a penalty for evil-doing, (2) a deterrent effect, and (3) reform of the criminal. Our present methods were not deterrent and did nothing to reform the criminal; they aimed chiefly at the protection of society, but still retained a strong element of the primitive idea of vindictiveness and desire for retaliation. The primary mode of protecting society was to remove the criminal, and for a long time the death penalty was inflicted for all serious crimes. The next method was transportation, for which penal servitude had been substituted since 1853 in this country. In connexion with the two main classes of crimes, some of the anomalies of the laws dealing with theft were considered, and it was pointed out that crimes against the person were dealt with with extraordinary lenity compared with those against property. The speaker stated that the number of criminals in relation to the population had decreased considerably during the last fifty years. At the present time the proportion was rising, probably on account of the increase in unemployment. Some of the best recent laws were then considered, namely, the Habitual Inebriates Act, the First Offenders Act, the Probation Act of 1908, and the Prevention of Crimes Bill. In connexion with the first of these it was stated that of the women in the Inebriates' Home at Aylesbury only 10 per cent. were reformable, 80 per cent. were mentally defective, and 10 per cent. were feeble-minded. The lack of power of permanent detention was commented upon. The Borstal system was commended for the treatment of young offenders, both boys and girls. Other points touched upon were the question of the employment of prisoners, and the difficulty of procuring work for them after their discharge.

Reviews.

THE PROTOZOA.

The exhaustive treatise on protozoa by Professor F. Doflein[1] will be very welcome to medical men, especially to those interested in tropical medicine, for whom the protozoa are of ever-increasing importance. There is no learned profession for which so wide a range of knowledge is required at the present day as for medicine. The fully-equipped medical man is now supposed to be an expert on chemistry, anatomy, physiology, bacteriology, and zoology, and to have more than a slight acquaintance with many other sciences, in addition to an exhaustive knowledge of medicine in all its theoretical and practical ramifications. The student who can acquire such an extensive range of knowledge during the few years allotted to the medical curriculum must be a man of most exceptional intellectual power, and, as a rule, the amount of instruction in zoology that a medical man receives during his student career does not enable him to master even the most elementary principles of that science. When, therefore, the medical man finds himself called upon to deal with a vast assemblage of organisms the study of which involves a knowledge of many complex problems of zoology and cytology, together with an intricate special terminology and an elaborate technique, he naturally asks at once where he can find a book which shall put before him in a limited compass, but, so far as possible, in a complete manner, the principles and the most important facts of this branch of knowledge. Such a book is supplied by Doflein's treatise, which is neither too short to be useful nor so bulky as to scare the seeker after information. Some parts of it may be read with interest and pleasure by those who desire an acquaintance with modern thought and speculation on those fundamental biological principles which underlie the activities of living beings, and which co-ordinate the facts and give an orderly arrangement to what would be without them an incoherent mass of unintelligible detail. Other parts of the book are more useful for purposes of reference, and the reader who desires to look up some particular species or subject has the assistance of a complete index.

[1] *Lehrbuch der Protozoenkunde. II. Auflage, Der Protozoen als Parasiten und Krankheitserreger.* Jena: Gustav Fischer. 1909. (Sup. roy. 8vo, pp. 914; 825 text-figg. M. 24.)

Within the limits of space imposed by a review, a work of this size can be dealt with best by first giving a general survey of its contents and scope, and then discussing such points as concern more directly the special problems in which a medical man is interested.

The work is divided into a general and a special part. The general begins with a brief introduction, in which the definition of the protozoa and their most characteristic features are discussed, after which follow six sections dealing exhaustively with the subjects of morphology, physiology, reproduction, biology (or bionomics), system (or classification), and technique respectively. Under morphology the author describes in detail the structure of the protozoan body, first of the protoplasm and nuclear apparatus, and then of the various organs, or, as he prefers to call them, organellae, classified on a physiological basis, as organellae of movement, nutrition, and so forth. The section on physiology is divided into "Stoffwechsel" (metabolism of substance) and "Kraftwechsel" (metabolism of energy).

The section on the reproduction of the protozoa is exceedingly interesting and instructive. After a detailed survey of the facts of fission, fertilization, regeneration and development, some important theoretical problems of reproduction are discussed, amongst which may be noted especially the theory of nuclear dualism and the question of the origin and significance of sex and sexual conjugation. By nuclear dualism is meant the theory put forward by Schaudinn and Goldschmidt, to the effect that in any protozoan cell-body the nucleus or nuclear apparatus in its entirety consists of two kinds of chromatin—so called vegetative "somatochromatin," which governs the vital activities carried on at the moment, and generative "idiochromatin," which is in reserve for the functions of fertilization and heredity. The author disbelieves in the existence of two distinct kinds of chromatin, and agrees with Hertwig that the somatochromatin is chromatin in a state of functional activity, while idiochromatin is chromatin of which the activities are temporarily dormant, but can be awakened and brought into play again. With regard to the origin of the sexual process, the author first reviews the various theories that have been put forward, and comes to the conclusion that fertilization is a necessity for an organism possessing the cellular type of organization (that is to say, for all organisms higher in the scale than the bacteria and allied forms of life), a necessity brought about mainly by the deficiencies of cell-division. The structural components of a cell may be regarded as consisting principally of two classes of substances, the one regulating motor functions, the other active in metabolism. By inequalities in the results of cell-division two sets of individuals become differentiated, one of "male" character, more rich in motile substances, the other of "female" character, with stores of reserve nutriment. With extreme differentiation in these two divergent directions, the general functional activities of the organism as a whole, and its efficiency as a living body, especially its reproductive capacity, are impaired; but union of two such cells or "gametes" in sexual conjugation restores the just balance in the constituents of the cell-body.

In the special part of the book the protozoa are dealt with in systematic order, the principal types being described in detail, with full accounts of their structure, life-history, and mode of life. The spirochaetes are regarded as primitive or transitional forms leading up from the bacteria and their allies to the flagellates. The true protozoa, excluding the spirochaetes, are divided into two principal groups—the plasmodroma, in which the organs of locomotion are pseudopodia or flagella, and the ciliophora, in which the motile organs are cilia. The plasmodroma include the classes mastigophora, rhizo-

poda, and sporozoa; the ciliophora are subdivided into the ciliata and suctoria.

Of special interest to medical men are the sections describing the parasitism and pathogenic importance of certain types of protozoa. There are four such sections, dealing respectively with spirochaetes, flagellates, amoebae, and telosporidia—that is, coccidia and malarial parasites. Each of these special sections is inserted in its proper systematic position, following the description of the group of protozoa concerned, and gives a summary of present knowledge concerning the parasitic forms, their occurrence, distribution, pathology, and etiology, with figures of the blood-sucking invertebrates which transmit certain of these parasites. Though necessarily brief, these chapters furnish much useful information when taken together with the systematic descriptions which precede them.

We may now consider the position taken by the author upon some disputed questions relating to protozoa. Ever since the publication of Schaudinn's famous investigations on the life-histories of the parasites of the little owl—researches put forward in the form of a preliminary report which the author did not live to confirm or complete—much controversy has arisen. Some authorities, accepting Schaudinn's statements, consider that the haemosporidia (the malarial parasites and allied forms) should not be retained as an independent order, but should be united with the trypanosomes in the classificatory system; others have criticized Schaudinn's results adversely, and consider that he was working with mixed infections and that he confused together distinct species of parasites in one life-cycle. Professor Doflein gives Schaudinn's statements in detail, but suspends judgement upon them, being of opinion that the question should be reinvestigated with all the precautions and safeguards required by recent advances in knowledge, and especially by the method of pure cultures. He does not accept, however, the proposed union of the trypanosomes and haemosporidia, but on the contrary unites the latter with the coccidia into one group termed the "Coccidiomorpha." The trypanosomes are all placed in the single genus *Trypanosoma*, which is not further subdivided, and which by itself constitutes the family *Trypanosomidae*. On the other hand, the genus *Trypanoplasma*, the common blood parasite of fishes, is placed in the family *Bodonidae*, and the genera *Herpetomonas* and *Crithidia* are placed in the family *Cercomonadidae*. The author regards the family *Trypanosomidae* as purely provisional, and considers that in the future *Trypanosoma* will be classed with *Cercomonadidae* in close proximity to *Herpetomonas*.

The haemosporidia are divided into *Plasmodidae* and *Haemogregarinidae*. The author remarks on the terrible confusion in the nomenclature of these parasites, and recognizes the following genera of *Plasmodidae: Proteosoma* for the malarial parasites of birds; *Plasmodium* (including *Laverania*) for the malarial parasites of man and mammals; *Achromaticus* for one species described by Dionisi from bats; and *Haemocystidium* from reptiles. In the family *Haemogregarinidae* are placed the genera *Lankesterella*, *Karyolysus*, *Haemogregarina*, and *Hepatozoon*, the last-named genus being used for the so-called leucocytozoon of the rat. The haemogregarines of mammals are considered to be allied to, or perhaps generically identical with *Hepatozoon*, but the treatment of these forms is disappointing, and the author does not seem to have grasped the great difference between the leucocytozoa of mammals, which are really haemogregarines, and those of birds, which show distinct affinities with the malarial parasites. As an appendix to the haemosporidia, the author places the genera *Haemoproteus* (= *Halteridium*), *Babesia* (= *Piroplasma*), *Endotrypanum*, and lastly *Leishmania*, with the species *L. donovani*, the parasite of kala-azar, *L. tropica*, from oriental sore, and the recently discovered *L. infantum* of Nicolle. The parasite described by Darling, from human beings in Panama, under the name *Histoplasma capsulatum*, is also included here. The author inclines to the view of Laveran that the Leishman-Donovan bodies show a close affinity to *Piroplasma*, and differs from those who place them in or near the flagellate genus *Herpetomonas*, on the ground that in cultures these organisms develop into typical herpetomonad forms, as was first discovered by Rogers. We are decidedly of opinion that the evidence of affinity between *Leishmania* and *Herpetomonas* greatly outweighs any arguments that can be brought forward for placing *Leishmania* in the haemosporidia.

With regard to the various bodies classified together by Prowazek in one group, termed by him "Chlamydozoa," including the supposed protozoan parasites of scarlet fever, variola, etc., Professor Doflein is of opinion that the bodies seen by Prowazek and others are not yet satisfactorily proved to be living organisms. He considers also the alleged parasites of carcinoma to be extremely doubtful in nature.

In conclusion, we may draw attention to the great number of beautiful illustrations which adorn the pages of this book, and facilitate the task of digesting its contents. At no time in the last twenty years have so many figures of protozoa been brought together in one work. Many of the illustrations are original, and of great interest are those of Schaudinn, now published for the first time from sketches found among his manuscript notes after his death. We have no hesitation in recommending this work to medical men who desire to possess a very complete treatise on protozoa written from the zoological standpoint.

E. A. MINCHIN.

ROBERTS'S MEDICINE.

WE have already reviewed the tenth edition of *The Theory and Practice of Medicine*, by Dr. FREDERICK ROBERTS,[2] and have pointed out the care with which the author has exercised his judgement in bringing one of our best textbooks up to date. The one great difference in form between this issue and the last is the appearance in one volume instead of two—a change which adds greatly to its handiness. A very full index also serves in the same direction.

No doubt the author is well advised in writing an appendix, because by this means the reader is enabled to learn what are the newly accepted principles which have passed muster in recent medicine, and also what are the newer ways in which the old problems are faced, and what are the newer ways of endeavouring to solve the riddles of treatment in view of these changes. By placing these notices in an appendix, better perspective is secured to the reader than if they appeared in the body of the work; current knowledge of what is being tried is essential to a physician, and at the same time he should be enabled to learn that methods are only on trial, and are not yet sufficiently tested to be accepted as established facts.

Dr. Roberts succeeds admirably in describing briefly the methods of diagnosis which, known in the laboratory for some time, are slowly but surely finding their way into clinical laboratories. The section dealing with the special infective diseases puts before the reader the advances made in typhoid fever, including the subjects of "typhoid carriers," and Sir Almroth Wright's practice, which has now become established, of inoculation with antityphoid vaccine as a preventive measure. Reference is also made to the investigations of Bordet, which point to the discovery of a cocco-bacillus, the endotoxins of which are highly virulent and can produce the symptoms of whooping-cough. An excellent account is given of the various manifestations of pneumococcal infections, and a description of the use of tuberculin in the diagnosis of tuberculous diseases. The graphic method of investigating diseases of the heart, to which such a great incentive has been given in recent times by the introduction of instruments of greater technical finish, is a feature of the appendix. We do not think Dr. Roberts was wise in making no reference to the advances in the study of the etiology and serum-diagnosis of syphilis, matters which are of so great importance to the physician. We hope it will not be long before he will publish another appendix, when this subject may be added to the other valuable information which this one contains.

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[2] *The Theory and Practice of Medicine*. By Frederick T. Roberts M.D., B.Sc., F.R.C.P., Emeritus Professor of Medicine and Clinical Medicine, University College, Consulting Physician to University College Hospital and to the Brompton Hospital for Consumption and Diseases of the Chest. Reissue in one volume of the tenth edition, with Appendix. London: H. K. Lewis. 1909. (Roy. 8vo, pp. 1410, and 14 pages of Index. Illustrated. 12s. 6d.)

THE PATHOLOGICAL MUSEUM, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE annual *Appendix* to the catalogue of the pathological collection in the Museum of the Royal College of Surgeons of England testifies to the energy of Mr. SHATTOCK.[3] Those who are in a position to appreciate the full value of these annual additions to the written catalogue must be agreed that the conservators of other medical museums of which that at the college is the prototype ought to take in the Appendix as an important scientific annual and an admirable guide to museum management. The particular additions registered in these two volumes have been already mentioned in our report of the annual show of new specimens held at the college in July during the elections for members of Council. It will be interesting to see how the new system introduced by Professor Keith and Mr. Shattock will suit the convenience of visitors and students. The chief disadvantage of the appendix system was made manifest by the copies of the catalogue placed for their use in the galleries of the museum. As it would have been highly inconvenient to keep twenty-three volumes of appendix as well as one copy of the original catalogue on the shelves of each gallery, interleaved copies of the original issue, with the additions from each appendix pasted on the blank sheets were, and are still, left for the use of visitors to the pathological collection. This system has proved better than older methods, or rather no methods, which allowed years to pass before a big accumulation of new specimens was catalogued at all. Still, the interleaved volumes are clumsy, and in course of time the additions require new interleaved sheets, which involve new binding and the disadvantages of a temporary withdrawal of the volume from the museum. By the new system the description of each specimen is printed and at once placed on a file fixed on the shelves of the museum. Each file contains the descriptions of some thirty or forty adjacent specimens. In this way the visitor can inspect the newest additions, and find the corresponding description close at hand without the trouble of turning over the dirty leaves of a catalogue dilapidated by *surmenage*. We trust, however, that the annual appendix will be continued.

EDUCATION AND EMPIRE.

IN a small pamphlet entitled *Parents, Teachers, and Schools*, Dr. ODERY SYMES has reprinted and issued a series of four lectures, previously given by him, on school hygiene.[4] The lectures are pleasantly written, and deal with the various details of school life, the relations of parents and teachers to one another and to the children they control, some of the diseases and physical deformities to which children are liable, and the proper ratio of work to play. Dr. Symes has much to say that is important and true in regard to the present-day home upbringing of many children, and the attitude assumed by their parents towards disease. He protests against the fads of neurotic mothers, who teach their children to take such an interest in sickness and in every symptom of each little illness that they predispose them to become hypochondriacal, and encourage the development of an abnormal intolerance of the slightest ache or pain, and a cringing fear of infection. He testifies to the frequency with which the increase of neurotic maladies among adults is being visited upon the children, and so much is the writer, out of the fullness of a wide experience, concerned at the serious prospect of an unrestrained continuance of the present conditions, that he expresses the deliberate opinion that "when the State takes up the duty of regulating the life of the individual and the home, as it will do in the socialistic millennium, the marriage of neurotics will be a criminal offence." One of the remedies which Dr. Symes recommends for the curtailment of neurotic tendencies in children is the abolition of the competitive system of work, and the discouragement of the prevailing spirit of rivalry except within a limited and properly defined scope. This recommendation, though perhaps unattainable now, possesses an element of prophecy, because it must be evident to all who are in any way connected with the school life of to-day that, unless the tyranny of examination cram is done away with and replaced by some better method of testing educational progress, the children of the future—before many generations pass—will have become incapable of originality either in thought or action, and quite unfit to carry on the traditions of a great and enterprising race. It would be to the advantage of the nation if every parent and teacher would read these lectures of Dr. Odery Symes.

Mr. J. ELLIS BARKER'S book, *Great and Greater Britain*,[5] is dedicated to Mr. Joseph Chamberlain, who, he says, has been his teacher, has formed his views and influenced his writings. Starting with the statement that Great Britain with her Colonies is the greatest commercial and maritime State existing, the author tries to gauge the future not by relying on the theories of abstract thinkers but by historical comparisons. An interesting sketch is given of the causes which lead to the rise and fall of various great commercial States, and the lesson is deduced that strength is better than wealth, and that neglect of the army and the decay of agriculture have been fatal in the past to all the great commercial States from Phoenicia to Holland. Since might is right in international politics, we are told that "the end of British naval supremacy would certainly mean the end of the British empire." Our naval policy is at present based on a two-power standard, and the two powers which the author thinks we ought to keep in view are the United States and Germany. Looking at our heavy burden of taxation and our financial resources, doubt is expressed whether we can maintain our naval supremacy for long against Germany alone, and Mr. Barker thinks that the life or death of the empire depends on its unification by the creation of a supreme imperial government representative of the whole empire and a navy paid for by an imperial exchequer. The familiar arguments and figures are given, all leading up to the conclusion that our only hope is in imperial federation with a preferential tariff throughout the empire and the abandonment of Free Trade for Protection. A chapter follows on the physical degeneration of the English race. This chapter consists of a paper which the author read at the annual meeting of the British Medical Association in 1908. He considers the report of the Departmental Committee on Physical Degeneration inconclusive, because no direct evidence was obtainable on the question whether the English race has degenerated in physique, though it is reasonable to suppose that the transference of the population from the country to the towns must have led to some deterioration. No British anthropometrical statistics are available, but in Germany and France where such statistics exist it is certain that the town populations are physically very much inferior to the country population. Statistics are given from the German, French, and Japanese armies to show that the training received in the army very quickly improves physique, and that the improvement is so marked as to afford a stronger and more popular argument in favour of universal military training than even that founded on the risk of invasion. One of the most interesting chapters is that on education and its dangers, and whatever may be thought of Mr. Barker's protectionist and imperialistic views his remarks on the present system of education are worthy of serious consideration. He is among those who think that the schools should cater more directly for the everyday needs of the people, and that practical men, not tradition-bound schoolmasters and well-meaning clergymen, are alone fitted to determine the practical requirements of education. Mr. Barker, it is said, is not a true born Englishman, but whatever foundation there may be for such a statement it is a mere *argumentum ad hominem*, and should not be allowed to influence our judgement of his book. Its style is curt, lucid, and often epigrammatic. His sketches of great historical movements are good, and his clear and trenchant style and his dependence on historical facts as his guide readily account for his rapid rise and advance as a writer on current political topics.

[3] *Appendix XXII and Appendix XXIII to the Second Edition of the Descriptive Catalogue of the Pathological Specimens contained in the Museum of the Royal College of Surgeons of England.* By Samuel G. Shattock, Pathological Curator of the Museum. London: Printed for the College and sold by Taylor and Francis. 1908 and 1909. (Roy. 8vo, pp. 46 and 38 respectively.)

[4] *Parents, Teachers, and Schools: Lectures on School Hygiene.* By J. Odery Symes, M.D., Physician to Clifton College. Clifton: J. Baker and Son; London: Simpkin, Marshall and Co., Ltd. 1909. (Fcap. 8vo, pp. 63. 1s.)

[5] *Great and Greater Britain: the Problems of Motherland and Empire—Political, Naval, Military, Industrial, Financial, Social.* By J. Ellis Barker. London: Smith, Elder, and Co. 1909. (Demy 8vo, pp. 292. 10s. 6d.)

FORENSIC CHEMISTRY.

WE have read with extreme interest Mr. JAGO'S *Forensic Chemistry*,[6] and have nothing but praise for it in itself, feeling sure that, as the author hopes, so it "will prove of great value and assistance to those who have to prepare and handle chemical evidence," but at the same time we must caution those who would buy the book as to its contents. Its title might lead a would-be purchaser to think that it contained details of chemical processes to be used in making investigations for a court of law; this, however, is not the case, but it does give the fullest information as to the directions in which chemical evidence is to be sought, the deductions and inferences which may legitimately be drawn from chemical results, and full arguments as to the legal decisions upon these inferences. Adulterations of foods and drugs, new processes for manufacture, the use of preservatives and colouring matters, and breach of contract under the Sale of Foods and Drugs Act are in this relation very fully dealt with, and the book concludes with a chapter entitled "Practice," of which we can truly say that the word "chemistry" might be deleted and "evidence of any kind" substituted, for the chapter deals in a masterly manner with the way in which evidence should be collected, arranged, and dealt with so as to present it before a jury in the most convincing manner. Simply for the sake of this last chapter we would feel inclined to say that every medical jurist might with profit to himself possess the book, for it presents a perfect model of how to get up a case. The cases quoted prove every statement contained in the book, and must for some years prove a very valuable collection. Whether the decisions recorded will stand the test of time, time alone can prove, but they are based on such sound reasoning and equity that we believe they are likely to stand.

NOTES ON BOOKS.

AS we remarked in reviewing the second edition (BRITISH MEDICAL JOURNAL, March 12th, 1904, p. 610), Professor OPPENHEIMER'S book on ferments and their action[7] is of great value as a critical summary, emanating from a high authority, of what is known concerning these important bodies. In preparing a third edition, Professor Oppenheimer has remodelled and expanded his work, which will be completed in two volumes. The volume which has now been published is entitled "special part," and will be followed later by a "general part." As its title implies, the "special part" consists of a systematic record of what is known about each ferment, and forms a most useful work of reference. Since 1903, when the former edition was published, the knowledge of ferments has developed rapidly, and consequently extensive revision has been necessary. The arrangement of the subject-matter has also been altered, in conformity with the author's desire to introduce an improved classification of ferments. His views on the principles of classification will be explained more fully in the "general part" which is to follow. The very condensed mass of details which constitutes the present volume will be more readily assimilated when the index and the general survey of the subject have been published. As these are to appear in Part II, which, we understand, will make its appearance in a few months, we postpone further criticism until we have the completed work before us.

Whilst we are inundated with a superabundance of text-books on the bacteria known to be pathogenic for man, comparatively little has been written about the much more numerous and more widely distributed micro-organisms which play a useful and, indeed, indispensable part in agricultural and many other industries. The attractive feature of the *Outlines of Bacteriology*,[8] by Dr. ELLIS, is that it devotes several chapters to these economically invaluable microbes, particular attention being paid to the organisms of nitrification and fermentation. There are also interesting chapters on the thermogenic and thermophilic bacteria, the sulphur bacteria, and the iron bacteria. The general chapters on the biology and the cultivation of bacteria do not appear to attain a very high standard; they are certainly inferior to the articles on these subjects in the better known textbooks, such as Muir and Ritchie's. But the main purpose of the present volume is to serve as an introduction to the technical and agricultural branches of bacteriology, and we have no doubt that students of these subjects will find Dr. Ellis a helpful teacher.

The volume recording the *Proceedings of the American Society of Tropical Medicine* at its sixth annual meeting last April contains some twenty-four papers, including a review of the year's progress in tropical medicine by the President of the Society, Dr. J. M. Anders, of Philadelphia. Several of the papers relate to pellagra, a comparatively new problem with which the Southern States of America more particularly have now to deal. Dr. Alsberg strongly advocated the view that the disease was invariably due to the use of Indian corn grown on unsuitable soil, and therefore cut before ripe, such corn being specially liable to undergo changes rendering it unfit for consumption. Another discussion dealing with uncinaria infections demonstrates the grave economic losses which the prevalence of hook-worm disease in the Southern States of America is causing. Among the contributors of papers are Professor Leonard Rogers, of Calcutta, and Dr. A. Calmette, of Lille, the former dealing with the question of whether the seven-day fever of Indian ports is anything more than sporadic dengue, and the latter with the mechanism of the neutralization of cobra venom by its antitoxin. A large proportion of the papers have previously been published in some one or other of the American medical journals. The address of the Society is the Philadelphia Polyclinic, 1818, Lombard Street, Philadelphia.

The Yearbook of Pharmacy, 1909,[9] fully maintains the reputation established by its predecessors as a compact and useful record of the year's progress in the preparation and testing of medicines and other pharmaceutical compounds. The first part of the volume consists of abstracts of papers which have appeared during the year in the principal English and foreign journals, arranged under the three heads, Chemistry, Materia Medica, and Pharmacy. The first of these sections is not intended to deal with the general chemical work of the year, but only with the chemistry of drugs and tests for medicinal substances. Under Materia Medica are included abstracts of papers on new remedies, such as the organic arsenic compounds, as well as much new information with regard to older drugs. The section allotted to pharmacy contains a large number of formulae for mixtures, liniments, ointments, etc., and for toilet preparations; some of the papers in this section, however, would appear to belong more properly to the first. The second part of the book contains a report of the meetings of the British Pharmaceutical Conference at Newcastle last year, with the papers read and the discussions thereon. These include many subjects of interest, the first place after the presidential address being given to a paper on the bio-chemical testing of certain drugs, by Dr. William Martin. A report is also given of a discussion on dispensing by doctors, in which both medical practitioners and pharmacists participated, and in which the arguments against the practice and the difficulties in the way of giving it up appear to have been fairly dealt with.

To the amateur collector Mr. E. W. SWANTON'S *Fungi, and How to Know Them*[10] should prove of value. Fungi, besides being of great scientific interest, are now recognized as of considerable economic importance, if for no other reason than, as the author says, they are "second to none in their capacity for evil." Mycology is a branch of botany which has until recently been somewhat neglected. The appearance of this book will no doubt tend to arouse interest in the group among the large and steadily-increasing number of amateur botanists and students of nature-study, to whom the chapter on collecting, exhibiting, and preserving will be found useful. The earlier chapters deal with morphology, reproduction, and habitat, and are simple, readable, and not overloaded with details. They are particularly designed for the beginner. The

[6] *A Manual of Forensic Chemistry, dealing especially with Chemical Evidence, its Preparation and Adduction.* By William Jago. Based upon a Course of Lectures delivered at University College, University of London. London: Stevens and Haynes. 1909. (Cr. 8vo, pp. 264. 5s.)

[7] *Die Fermente und ihre Wirkungen.* Von Professor Carl Oppenheimer. Dritte Auflage. Spezieller Teil. Leipzig: F. C. W. Vogel. 1909. (Roy. 8vo, pp. 502. M.16.)

[8] *Outlines of Bacteriology (Technical and Agricultural).* By David Ellis, Ph.D., D.Sc., F.R.S.E. London: Longmans, Green and Co. 1909. (Demy 8vo, pp. 274, illustrations 134. 7s. 6d.)

[9] *The Yearbook of Pharmacy and Transactions of the British Pharmaceutical Conference, 1909.* Editor of the Yearbook, J. O. Braithwaite. Editors of the Transactions, E. Saville Peck, M.A., and Horace Finnemore, B.Sc., F.I.C. London: J. and A. Churchill. 1909. (Demy 8vo, pp. 408. 10s.)

[10] *Fungi, and How to Know Them: An Introduction to Field Mycology.* By E. W. Swanton, Curator of the Educational Museum, Haslemere. London: Methuen and Co. 1909. (Post 8vo, pp. 220; 48 plates. 6s.)

greater part of the book is devoted to classification and the description and means of identification of the different genera and species. This will be of help to the professional and amateur alike. It is carefully done, and will serve as a useful practical guide. The coloured plates by Miss M. K. Spittal are distinctly good, and much enhance the value of the work.

Dr. ROBINSON'S small book, *The Midwives' Pronouncing Dictionary*,[11] will undoubtedly be found of service by midwives, as it gives a fairly complete list of technical terms in common use in midwifery, with their meanings and often full explanation and pronunciation. The pronunciations given certainly require some revision. They are not always consistent; for instance, "neonatorum" is pronounced in one place quite correctly as nee-o-na-tór-um, but in another place as nee-o-náy-tor-um. Ecraseur is given as a-kra-zur, while there is more than doubt about yew-to-kí-a for eutocia, and mal-a-kí-a for malacia. Some of the meanings attached to words are not exact; thus, *podalic* is explained as "relating to the breech of the fetus." At the end of the dictionary there is an appendix giving the rules of the Central Midwives Board as they affect midwives. The danger in books of this class is that midwifery students should imagine that if they can define a word, that is quite sufficient; but no doubt as a pocket remembrancer it will have its place.

[11] *The Midwives' Pronouncing Dictionary.* By H. Robinson, M.A., M.D. London: The Scientific Press. 1909. (Cr. 16mo, pp. 80. 1s.)

MEDICAL AND SURGICAL APPLIANCES.

Instruments for the Diagnosis of the Seat of Gleet.

MR. JAMES MACMUNN (London, E.C.) writes: Urethroscopes and glass tests as ordinarily used often fail to show the seat of gleet; even in expert hands they sometimes fail. They fail because gleet springs much more commonly than we think from deep glands and follicles which may show no disease to the eye, and do not give up their contents to flushings. The "morphology" of flakes—whether banners, stars and stripes, and especially that flake (prostatic) which one might call "the long floss flake," may be distinctive, but with the last exception is not usually so; staining flakes has some use. As aids in otherwise difficult cases I beg to offer the simple contrivances shown. The anterior urethra having been flushed by means of a rubber catheter to remove secretions which, contrary to "the textbooks," often flow direct from the posterior, the penis is stretched over the pubis and massaged from below upwards on its under aspect so as to empty glands and follicles. The largest size of the straight instrument which will pass is used. It is pushed straight as far as it will go. Any secretion it holds (microscopically examined) will show how the anterior urethra is implicated as far as glands are concerned. Each instrument includes two sizes; the curved instrument with long bevelled (so as not to hurt) slot is used for the deep urethra. I often used a two-bulbed instrument to sweep respective parts of the canal. It is not required. I have used the straight instrument for removing papilloma, the bulb being passed beyond the growth, the latter being then removed between this bulb, and a circular-ended endoscopic tube (the bulbs unscrewed). Besides these uses it is a curette. The instruments are made for me by Messrs. Arnold and Sons.

An Acoustic Aid.

Dr. H. MACNAUGHTON-JONES (London, W.) writes: For those who are partially deaf a simple appliance consisting of two very light imitation tortoise-shell auricles, connected by a sliding metal spring band, which is very thin, and can be taken in two, will be found of considerable use to wear either in the house or in a public building. The separate halves are held together by a tiny screw; thus it is easily adaptable to any-sized head. It is adjusted in a second. I have tried it with different people, and with the most satisfactory results. In fact, I have several patients who now, when at home, never go without "their ears." I am indebted to Mr. Hawksley for making this appliance for me, which, for want of a better name, I have called an "Autophone." The principle is nothing new. It is as old as the prehistoric habit of primitive man of placing his hands behind his ears to divert and collect sound waves.

MEDICINAL AND DIETETIC ARTICLES.

"Tippee" Petroleum Emulsion.

A NEW emulsion of petroleum, which has recently been put forward under the above name by Messrs. Bash and Co. (35 and 36, Foley Street, London, W.) contains purified liquid petroleum in a vehicle of malt extract. Analysis of a sample which has been submitted showed the presence of 4.2 per cent. of petroleum, which, allowing for the density of the liquid, is about the proportion stated to be present (20 minims in each dessertspoonful). Malt extract is a very useful vehicle for the administration of substances compatible with it, and the Tippee Emulsion is an agreeable preparation. It is stated to contain also iron and lime salts and free iodine; the iron and lime salts were readily shown to be present, but it was impossible to detect any iodine, and it is not to be expected that this element would remain in the free state in the presence of the various constituents of malt extract capable of combining with it.

Porcelain Walls.

On a recent occasion we had an opportunity of examining some sheet porcelain which, although of English invention and English manufacture, is being put on the market by the American and Canadian Securities, Limited, of Broad Street Avenue, E.C. The merits of this porcelain are the fineness of its surface and the large size of its sheets in comparison with ordinary porcelain tiles, glass-faced bricks, and other materials commonly used for facing corridors and the construction of operating theatres. They measure 5 ft. long by some 2 ft. 6 in. broad, but, being less than 1 in. in thickness, they are not too heavy to handle. Indeed, it is calculated that a bungalow containing five rooms, each about 12 ft. square, roofed, walled, and floored with these porcelain sheets, would only weigh about 18 tons, and that its erection would only occupy about three days. The sheets are primarily intended for the erection of houses in tropical countries, but seem equally suited for use in hospitals. They are jointed together to form walls and partitions by fitting them into enamelled steel skeleton frames. Thoroughly to clean a room walled with these sheets of porcelain would require nothing more than a hose and a brush. In respect of cost, a rough calculation would seem to prove that, irrespective of a considerable saving of labour, it would be less than that of ordinary tiles, if only because no backing of brickwork would be necessary. On all grounds, therefore, this invention seems to deserve examination by architects and members of building committees charged with the improvement or first erection of hospitals.

Geril Bread.

We have received from Mr. J. Allmann (9, Cullum Street, London, E.C.) samples of a bread to which the name "Geril" is given. It is a dark brown bread of close texture; each loaf was enclosed in a tin hermetically sealed—something like the Westphalian black bread commonly called pumpernickel some people find so palatable and digestible, but less dark and less moist. The sample was perfectly fresh and moist when first cut, and it does not appear to dry readily. Analysis of one of the loaves gave the following results:

Protein	7.55 per cent.
Fat	0.79 ,,
Ash	1.58 ,,
Reducing sugar, calculated as maltose ...	9.7 ,,
Fibre	1.86 ,,
Water	36.22 ,,

The remainder consisting principally of starch and other carbohydrates.

The close texture of the bread, and the presence of a good deal of fibre, almost compel thorough mastication, and it is probably on account of these qualities that it is claimed that this bread is of special value in constipation. It is also recommended to be eaten for some other complaints, including diabetes; but as it contains a fair amount of a reducing sugar, and starch in abundance, it does not appear suitable for diabetic cases.

RECOLLECTIONS OF A LONG PROFESSIONAL LIFE—1844 TO 1904.

By LOMBE ATTHILL, M.D.,

EX-MASTER OF THE ROTUNDA HOSPITAL, DUBLIN; AND EX-PRESIDENT, ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

(*Continued from page 89.*)

THE monotony of my professional life, consisting as it did for many years in a struggle to make the two ends meet, was unexpectedly broken in 1868 by my being invited to join the staff of the Adelaide Hospital, to be allotted a small ward containing five beds, for the treatment of "diseases peculiar to women." I had no idea that such an appointment was contemplated, as such a post as gynaecologist to a general hospital was unheard of previously in Dublin. I of course jumped at the offer, which, as it proved, had a marked effect on my future. From the first my five beds were filled, and I had not infrequently to trespass on the kindness of my colleagues, who would lend me a bed for some interesting case. Although it never was directly stated to me, I believe the invitation to join the staff was due to the kindness of the two physicians to the hospital, Dr. James Little and Dr. Henry Head, to whom I know I owe much besides. I soon had a large extern clinic, and at once commenced giving clinical lectures, which were much appreciated by the class. They were attended by pupils from other hospitals also. After a time some of the class asked me to publish these, which, though I had only very rough notes to guide me, I did. They appeared in the *Medical Press*, at that time edited by the late Dr. Arthur Jacob, and I had an edition of 500 copies reprinted from this, every one of which, to my great surprise, was sold in a few months. A second and third enlarged editions followed, the latter of which was reprinted in America and translated into French. Altogether there were seven large editions published in Great Britain. Then, though pressed by the publishers to issue another, I decided not to do so, for so great had been the advance in the knowledge and methods of treating those "diseases which are peculiar to women" that I felt I could not do so without virtually rewriting the whole book, which I had neither time nor inclination to do. I realized altogether by the sales of that small book a clear profit of over £1,000. I believe the success of the book was due to two rules which I laid down for myself when writing it: One, to use the simplest language possible, avoiding abstruse terms; the other, that, while being just to other teachers, to state clearly my own views and the results of my own experience rather than embodying that recommended by others.

I was rather surprised at the warmth shown by some reviewers. Dr. Matthews Duncan fell foul of me for advocating the use of fuming nitric acid in the treatment of certain conditions of the intrauterine mucous membrane, stating finally "that it might cure the affection, but that if so there would be no uterus left." One of my pupils who went to Edinburgh with the view of obtaining the licences of the Colleges of Physicians and Surgeons there, amused us much by relating what occurred at the *viva voce* examinations in midwifery, etc., conducted by Dr. Matthews Duncan. He was asked a question which led him to say that he would treat the unhealthy condition of the cavity of the uterus by the application of nitric acid. Dr. Duncan immediately asked him, rather angrily, where he had been taught to do that, and was told that it was in Dublin; then further being asked had he ever seen it done, "Oh, yes, hundreds of times by Dr. Atthill"; and when asked what was the result, replied that all the cases were cured! Whether Dr. Duncan believed this amazing percentage of cures to be true may well be doubted, but, at any rate, he passed the candidate and ceased to publish any comments on my practice.

Ovariotomy was, in 1868, in its infancy. Sir Spencer Wells had no doubt performed a large number of operations with considerable success, and his example was being followed by others in England and Scotland, but in Ireland only one or two surgeons had the courage to attempt it, and their results were discouraging. Among these few operators was the then senior surgeon of the Adelaide Hospital. He had operated three or four times, two patients dying, and he became an opponent of the operation. Bear in mind that at this time the clamp was used for securing the pedicle, that antiseptics were virtually unknown, for Lister had not as yet enunciated his views, he being still far from sure that he was right, and hesitated to publish them prematurely.

I was but a few months attached to the hospital when a young woman came under my care, with a well marked ovarian tumour. The little knowledge I had of the operation was discouraging; personally I did not know of a successful case, though of course I was aware of Spencer Wells's results. Our senior surgeon set his face against it, and the other surgeons on the staff had not attempted it, but the patient was young, and was anxious that it should be performed, so I decided to operate. The operation began most inauspiciously, for on dividing the integuments I found adhesions so dense that, in my efforts to break them down, the wall of the cyst gave way, and with the rapid escape of its contents collapsed. Inexperienced as I was, this unexpected difficulty perplexed me, nor was I reassured by the senior surgeon exclaiming aloud, "Atthill, give up the operation, close your incision, and perhaps the girl will live till to morrow." Remember I was the junior of the whole staff, that I had only once seen the operation attempted, and that as it proved in an altogether unsuitable case. I hesitated, turned round and looked at him without speaking, and as I did so my friend Dr. George Kidd, who was at my side, whispered to me, "Don't mind him, plunge your hand into the cyst, and try if you can turn it inside out." I promptly took the hint, enlarged the opening, seized the wall at the bottom of the cyst, and out it came through the opening, for fortunately there were no adhesions posteriorly. The anterior adhesions were then easily broken down from behind, and the pedicle secured outside with the clamp. The patient made a speedy recovery.

Those who have no experience of the extraperitoneal treatment of the stump in these cases, entailing as it did the leaving the clamp *in situ* for days, can have little idea of the anxiety with which the patient was watched till the pedicle sloughed through, and the clamp came away, which, if the pedicle was thick, was sometimes delayed for many days. Nor even then was the patient safe, for in not a few cases did septicaemia subsequently result from the gangrenous state of the parts. The intraperitoneal method did not come into vogue till much later.

I had another successful case before my connexion with the Adelaide was severed, and as two consecutively successful ovariotomies were then quite an event in Dublin, I was warmly congratulated. Indeed, one worthy old physician begged of me "never to operate again," saying if I did not do so, I could always say that every one of my operations had been successful, which no one else could say! Unfortunately his implied prophecy that I would have deaths was verified. My operations while Master of the Rotunda were numerous; but for some years, and till we thoroughly understood not alone the value but also proper methods of using antiseptics, and all the precautions needful to be adopted to ensure true and absolute asepticism, the deaths following on abdominal sections were numerous. Mine were for a long time quite one in every three cases. Looking back now on this intermediate period between the first public promulgation of the value of antiseptics by Lister in November, 1869, and the bringing the system to almost perfection many years later, I feel surprised and humiliated at the slowness with which Listerism was accepted by us, and the astonishing blindness of many who, while approving and adopting it, failed to realize how easy it was to nullify all the precautions taken by some stupid forgetfulness on our own part, or of our assistants. Thus, on one occasion

I was present when ovariotomy was performed by a sincere believer in the value of antiseptics. His instruments had been carefully sterilized, as were his hands and those of his assistants; yet, just as he was commencing to make the first incision, observing that the patient's limbs seemed very cold, he called for a blanket. I saw that the one brought was hurriedly pulled off a bed in the adjoining ward and flung over the lower limbs of the patient. A moment or two later the operator laid down his knife on this blanket, took it up, and proceeded to use it freely. No wonder discredit was brought on "Listerism," as it was then termed, by such carelessness; that night after night it was openly sneered at at meetings of the Surgical Society; not a few were found to say that nothing was needed but the plentiful use of water, and that statistics could be produced to prove that the results were equally good.

Several hospital surgeons at this time, and, indeed, for some years later, used to wear invariably an old, much-soiled coat when operating. One specially, I remember, would never permit the blood or any soil which might splash on this coat to be washed off, or the coat to be in any way cleansed. He was proud of the blood clots which covered it! Listerism for long was a thing to be abhorred by him, and very reluctant was he when at last, compelled by his colleagues, he adopted it and got rid of his filthy coat. In one matter Lister certainly was mistaken—that was the introduction of the spray which filled the apartment in which the operation was performed with the pungent fumes of carbolic acid. I, of course, on his authority, used it in my practice. I suppose I may have been specially obnoxious to its effect, for I always suffered from headache after its use, indeed, feeling quite unwell. Then, too, I found that the steam condensing during a tedious operation made the patient so cold as to endanger life from collapse; for this reason I gave up its use long before Lister himself became convinced that he had over-estimated its value.

My connexion with the Adelaide Hospital terminated on my being elected Master of the Rotunda Hospital in November, 1875.

Twenty-one years had elapsed since I had left it when my term as assistant expired, and I found it almost unaltered. No doubt the oak bedsteads were gone and replaced by iron ones with wire mattresses, over which felt was spread. The straw beds had given place to these. The curtains, too, which used to be drawn round the beds had disappeared. These were decided improvements, but otherwise things were unchanged. Extensive repairs, too, were needed and many improvements urgently required, while there was no money, the hospital being some £800 in debt. But there were two matters most urgently needed which could not be postponed—namely, the bringing into the wards an ample supply of water, the making arrangements to enable pupils and attendants thoroughly to cleanse their hands, which hitherto was absolutely impossible; and, secondly, to improve the position of the nurses and to put them and the female pupils into uniforms made of washable materials. This last proved the most difficult to effect of the two; the former was a mere question of money, the latter was to upset old-established customs.

There was not a trained nurse in the house except the "head midwife" whose main business was to supervise the female pupils who were trained in midwifery only; they picked up from the ward nurses such knowledge of the nursing of lying-in women as the nurses were willing or able to impart. The ward nurses were always respectable elderly women of good character, selected by the matron, and put in charge of a ward when a vacancy occurred, without any previous training. Some of these I found could neither read nor write. Their wages too, were but £10 a year. They provided their own clothing, and as their laundry expenses were not provided for they were in the habit of washing their underclothing, etc., in their wards, during the interval between the discharge of one batch of patients and the admission of the next. Their dresses, being black, were never washed, and were worn till they could no longer be held together; not that you ever saw a nurse in rags, they always looked respectable.

As I could not think of discharging these women, some of whom, indeed, were worthy of trust, I made the following suggestions to the governors, which they approved of: First, that the nurses should be divided into three classes. Two selected by me to receive £20 a year each, the second class to receive £16, and the third £14; all to be provided with uniform, and laundry expenses paid. No washing to be permitted in the wards.

All were pleased at the prospect of better pay. Some objected to the division into classes, and most of them to being obliged to wear uniform. Indeed, the head midwife was much opposed to this innovation, specially as it applied equally to the pupil midwives; and she gravely protested against "the poor things being obliged to wear calico dresses in winter." Yet she was a most intelligent, and, in other respects, most trustworthy, woman; but she was a great conservative, and considered wearing uniform derogatory to her pupils. As to herself, she was not asked to wear it I knew she would have resigned sooner than do so.

The new rules worked very well. Some of the oldest and least efficient nurses being disgusted at not being selected for the first class, said that if they were given a gratuity they would resign. Their application was granted, and so I got rid of one or two inefficients without causing trouble; and before my term as Master expired I could not have wished for a better staff than I had.

The matron was a nice old lady, a widow, who had formerly been in a good social position. She wished to do right, but had not had any previous training, and had no idea of what the duties of a hospital matron should be. She walked through the wards once daily to see if they were clean, etc., but with this exception her duties were really those of a housekeeper. It remained for my then assistant, Dr. (now Sir William Smyly, to again reorganize the nursing staff. Acting on his advice when, some years later (in 1889), he was elected Master, the board abolished the office of head midwife and appointed, as lady superintendent, a trained nurse, with sisters, nurses, and probationers, under her, as in other hospitals. I, being then a member of the board of governors, was able to support him in this and other improvements, for the carrying out of which he deserves the greatest credit.

The introduction into the wards of a proper supply of water and proper lavatory arrangements was speedily carried out. A notice was also affixed in every ward that no pupil was permitted to examine a patient without previously washing his hands and dipping them into a solution of carbolic acid supplied for the purpose. This was the first attempt ever made to introduce the use of antiseptics into the hospital; it was no doubt most inefficient, but their use was at that time little understood, disbelieved, and openly scoffed at by many, and I found it very difficult to make the pupils obey this rule.

By means of appeals to the public, and by a bazaar, a considerable sum of money was raised, and many improvements were effected. The most difficult task was to try and improve the basement story, which was, and I fear must ever remain, very dark, and was at that time also ill-ventilated, but we succeeded in letting in a good deal of light and air. All those matters were willingly sanctioned by the governors, but when it came to providing suitable premises for the treatment of extern patients, of whom a large number daily presented themselves, and the organizing the extern maternity, opposition came, and I regret to say that it was led by the medical members of the board.

The Master for the time being is an *ex-officio* governor, but ceases to be so at the expiration of his term of office, but is usually re-elected a governor subsequently. There were four ex-Masters governors at the date of my election. One, Dr. Evory Kennedy, never attended the meetings of the board. I had the misfortune to have failed to gain at my election the

support of any one of the others, but we were nevertheless very good friends, and from Dr. Alfred McClintock I received the heartiest support in the carrying out of the various improvements I have referred to; but when it was proposed to erect a small building for the use of extern patients, he opposed it on the grounds of want of funds. Another of the ex-Masters opposed it, and also the extension of the extern maternity department, as unnecessary, and as calculated to induce patients to remain at their homes for their confinements instead of seeking admission into the hospital. This the result has proved to have had quite the opposite effect, for as the numbers attended in their own homes increased, more patients sought admission to the lying-in wards.

The board met one morning to consider the architect's report. It was divided into two parts. The first part related to many matters I have spoken of and to alterations in what was known as the "auxiliary hospital," and which I urged the board to convert into one for the treatment of the diseases peculiar to women, instead of using the wards in it for lying-in patients. All these matters were approved, and the work ordered to be proceeded with. The second part related to a new building of very moderate dimensions, mainly for dispensary work, which has long given place to the fine hospital erected subsequently, mainly, indeed nearly altogether, through the exertions of Dr. (now Sir William) Smyly, during his Mastership.

Dr. McClintock, who was present at the meeting of the board, approved of the first part of the report, but when the second part was reached he pushed back his chair, and rising, moved the adjournment of the meeting. I begged the governors to wait and consider the rest of the report, and as there was further opposition, I asked them at least to walk round and see the apartment in which these patients were being treated. This they agreed to do.

It happened to be a very cold, raw morning in February. Now the only place where these extern patients could be seen was in a small room off the porter's lodge. About 10 ft. by 8 ft. in size, there was no fireplace in it, and the assistant on duty, in order to have some warmth for himself and the poor patients, used to have a small petroleum stove burning, which always smoked horridly. Then there was no waiting-room for the patients, and they had to stand in a narrow, dark passage leading to the little room.

The governors, some eight or nine in number, followed me into this dark passage, and found themselves wedged in amongst some twenty poor, and certainly not very cleanly, women, who were watching for the door to open and admit the one nearest to it. With some difficulty I got through the crowd, opened the door, and introduced the governor nearest to me, who happened to be the late Mr. C. Uniacke Townshend. He stepped in and saw the then assistant sitting enveloped in an overcoat near the petroleum stove, the room being filled with the pungent fumes therefrom. Mr. Townshend stepped back more quickly than he had entered, saying, "That's enough; let us go back to the board-room." I believe one or two more governors looked in, withdrawing speedily. This bringing of the governors to see the place was quite unpremeditated, but it answered the purpose admirably. The architect's plans were approved, Dr. McClintock contenting himself by merely having a resolution passed that the new work was not to be undertaken till the money for the purpose was provided. The board then adjourned for a month. Before that time elapsed we had succeeded in collecting some more—not a sufficient sum of money to meet the intended outlay, but I was determined that the new building should be put in hand at once; so to meet the difficulty caused by the resolution referred to, I got the bank to agree to advance if needed any sum up to £1,000 to the governors on my sole guarantee, the governors neither personally nor collectively to be responsible for such advances. I laid a letter from the bank to this effect before the board, and they then at once ordered the work to be put in hand. As a matter of fact, the whole sum needed was raised by one means or another, without the bank being called on to make any advance. It remained for Sir William J. Smyly to carry much further what I very imperfectly began, and to make the Rotunda by far the most complete and perfect hospital for women in the kingdom. Without doubt, second only to the founder, Dr. Bartholomew Mosse, the public and the profession alike owe to him a great debt of gratitude.

The remainder of my professional career was absolutely uneventful. Then, having been for over half a century engaged in active practice, I retired altogether from it, though I still continued to take an active part in College matters. I was elected President in 1888, and subsequently represented the College on the General Medical Council for nearly fourteen years, which office I relinquished in November, 1903. So ended my professional career, which, counting from the day I was bound an apprentice, had extended over nearly sixty years.

Looking back over that long space of time, it seems to me impossible for any one to convey to the student of the present day an adequate idea of the revolution in the practice of medicine and surgery which has followed the great discoveries made in all branches of medical science within little more than half a century. Although insensibility had been produced previously by the inhalation of sulphuric ether, anaesthetics as we now understand them were unknown. Though water was known to swarm with animalcules, bacteria as a cause of disease was not dreamt of. Cholera and the allied diseases were looked upon as scourges to be combated as each man best could by the exhibition of drugs, etc., but no one thought it possible to prevent the epidemic, when it occurred, from spreading except by the crude method of quarantine, or of tracing the cause of the original outbreak to its source. Patients suffering from all forms of fever, including small-pox, scarlatina, etc., were shut up in closely curtained rooms from which fresh air and light were excluded. Consumptives, in like manner, were kept indoors in close, warm, ill-ventilated rooms. Any old woman was deemed good enough for a nurse, and cleanliness, as regarded the utensils in the sick room, little thought of. Bleeding, though going out, was still practised, and the application of leeches frequent. Perhaps, in this respect, the reaction against any form of blood-letting is being carried too far.

My recollections of the leading men of the day at the time I joined it, and of the kindness I received from some of these, are amongst the pleasantest memories of my old age. Crampton, Marsh, Stokes, Corrigan, and Graves, were medical men second to none in their day, and had raised the reputation of the Dublin School of Medicine high in public esteem.

Sir Philip Crampton, though still on the staff of the Meath Hospital, was wellnigh past work, only coming occasionally to see an operation or as a consultant. He was a handsome old man with a fine presence, and was in the habit of driving himself about in a high mail phaeton, well horsed. In it he nearly ended my career during my first year, for as I was leaving Trinity College one morning he turned so suddenly out of Nassau Street into Grafton Street as I was in the act of crossing, that I barely had time to save myself by throwing my hands against the near horse's chest; fortunately the horses, though high steppers, were not going fast, and I got off with a shaking.

Graves and Carmichael were both still living; of the former great physician I knew but little. He had ceased to be connected with the Meath before I was apprenticed. Carmichael met his death by drowning in a sad way; riding across the strand at Sutton to reach his country house, he was overtaken by the tide, which was running in strongly, and mistaking his course his horse stumbled; he was thrown into deep water and drowned. He was a very charitable man, and to his donation of a large sum of money the success of the Medical Benevolent Society of Ireland is mainly due. He was a good surgeon, though not so well known as others I have mentioned.

Stokes I was fortunate to have as a teacher, and to count as a kind friend in after-life—a man of great ability, but of various moods. At one time he would be a genial and delightful companion, full of anecdote, and then, again, he would be quite the reverse remaining, even in genial company, quite silent. He has kept me for half an hour chatting in his study, though I told him his waiting-room was full of patients. He was indifferent, too, about making money, and died a comparatively poor man. He was a most reliable consultant, though occasionally he would give his opinion in a way that astonished the regular attendant. Thus, being called in to see an old lady, whose relatives had been told by the attending physician that her case was hopeless, he surprised the latter by saying, "I think that old lady will pull through." "Why," was the rejoinder, "has she not so and so?" entering fully into his views of the case. "Yes," replied Stokes, "you are quite right, but I know all about her; her life is no use to anybody, and I think she will recover." And I believe his prognosis proved true.

(To be concluded.)

THE HOME OFFICE AND PRISON DOCTORS.

IN a leaflet issued by the Women's Social and Political Union, it is stated that on December 20th Miss Selina Martin and Miss Leslie Hall were arrested in Liverpool and remanded for a week. They were sent to Walton Green Gaol. There, on the ground that they were unconvicted prisoners, they refused to submit to the prison discipline or to take the prison food. Forcible feeding was threatened, and Miss Martin barricaded her cell. An entrance was, however, effected, and she was taken to the punishment cell. We quote the following narrative from the leaflet: "All that night she was kept in irons. Next day her cell was entered, she was seized, thrown down, rolled over with her face upon the floor. In this position, face downwards, her arms and legs were dragged up behind her till she was lifted from the ground. Her hair was seized by another wardress. In this way she was 'frog-marched' up the steps to the doctor's room, her head bumping on the stone stairs. In the doctor's room the operation of forcible feeding was performed—causing intense suffering—and then this tortured girl, in a terrible state of physical and mental distress, was handcuffed again, flung down the steps and pushed and dragged back into her cell."

It is further stated that "bail was arbitrarily refused." The further allegation is made that "prison officials, encouraged by the Government, have cast aside both law and humanity in dealing with women political prisoners."

This statement is amplified in *Votes for Women* of January 7th. There we read:

"Great indignation has been aroused by the story of the brutality inflicted upon Selina Martin in Walton Green Gaol, Liverpool. This has been heightened by the fact that at the time of the occurrence Miss Martin was an unconvicted prisoner detained in the prison on remand.

"Miss Martin, it will be remembered, was arrested on December 21st* and brought before the magistrate, who in remanding her for a week refused to allow her bail, though she was prepared to give an undertaking that she would engage in no militant work during the period. She was taken to the prison, and offered a rigorous (*sic*) resistance to being subjected to prison discipline; nevertheless, she was not only forcibly fed on refusing to eat prison food, but she was subjected to the utmost brutality. Her own account of the proceedings is as follows:—

"The wardress pulled me off the bed and threw me on the floor. Then the doctor came and told me he would not let me go without food, but would feed me right away. He then ordered me to be dressed in my own wet clothes, and I was taken to a cold damp cell without ventilation, and was handcuffed behind and left on the floor. At night I was taken to a larger cell and kept in irons. Thursday night I was thrown down, and frog-marched up some steps, letting my head bump on the steps as I was carried. I was then forcibly fed, after which I was dragged to the top of the steps and thrown down. I have had a frightful struggle every time they have come with the instruments of torture, which the doctor does not hesitate to sneer about because I ask for a woman doctor.

* * * * * *

"Perhaps the cruellest part of the feeding process is the vicious manner in which the doctor forces the gag into my mouth, and coolly remarks, 'Does that hurt you?' Yet he knows I cannot answer."

In *Votes for Women* it is added:

"For those who do not understand the meaning of the frog march we may add that Miss Martin was seized by the arms and legs and carried head downwards from her cell to the doctor's room."

The attention of the Home Secretary having been drawn to the leaflet to which reference has been made, he has sent the following letter to his correspondent:

Home Office, Whitehall,
January 10, 1910.

MADAM,—Your letter of the 6th inst. draws attention to a matter which had already been under my notice. The allegations contained in the leaflet, No. 64, issued by the Women's Social and Political Union, and headed "Atrocities in an English Prison," have been thoroughly investigated by the Visiting Justices for His Majesty's Prison, Liverpool, with the result that they prove to be entirely without foundation.

The two prisoners to whom the leaflet refers were, while on remand, treated in strict accordance with the rules for untried prisoners. In particular, they were told they could have food sent in to them from outside prison if they desired. As they refused to avail themselves of this permission and also refused to take the food provided for them by the prison authorities, there was no alternative but to feed them compulsorily. Their conduct was so violent and destructive that it became necessary to put them both under restraint, but for this they have only themselves to blame. Selina Martin on Saturday last herself made the following statement to the Visiting Justices:

I have no complaint to make against the officials except for forcibly feeding me. There was no persecution of me.

She had not previously made any complaint to the medical officer of the prison about any injuries to her head, or other parts of her body, such as must have resulted if she had been treated in the manner alleged in the leaflet, and the justices are satisfied by the evidence before them that no force was used towards her beyond what was rendered necessary by the violence of her conduct. Leslie Hall, when asked by the justices on Saturday if she wished to say anything about her treatment, replied that she had no complaints whatever to make to them.

Every fair minded man must, I think, condemn electioneering tactics which lead to prison officials, and especially female officials, who have been doing their duty in circumstances of exceptional difficulty being made the subject of such outrageous and unfounded charges as those contained in the leaflet circulated by the Women's Social and Political Union, and it has been brought to my knowledge that other statements to a similar effect, though varying in details, have been published by the same agency. I believe that it will be generally agreed that persons making such statements for the purpose of political propaganda do much to damage the cause which they seek to promote.—I remain, Madam, your obedient servant,

H. J. GLADSTONE.

At present we are only concerned with the matter as it affects the prison doctors. It is satisfactory that Mr. Gladstone implicitly admits his ultimate responsibility for the manner in which food was administered to the prisoners by the doctors, as he says "there was no alternative but to feed them compulsorily."

* In the leaflet the date of arrest is given as December 20th.

DR. JAN HORBACZEWSKI, Professor of Medical Chemistry in the Czech district of Prague, has been created a member of the Austrian House of Lords.

THE first meeting of the General Committee to organize the seventeenth International Medical Congress, which is to be held in London in 1913, will be held at the house of the Royal Society of Medicine, 20, Hanover Square, W., on Monday, February 7th, at 5.30 p.m. The committee will decide the date of the Congress, nominate a president, an honorary general secretary or secretaries, and an honorary treasurer, and nominate an executive committee, with power to add to its numbers. All inquiries should be addressed to the Acting Secretaries of the Congress, 10A, Chandos Street, Cavendish Square, W.

THE COMPOSITION OF CERTAIN SECRET REMEDIES.*

PREPARATIONS FOR THE HAIR.

THE number of proprietary preparations for the hair which are advertised widely is very considerable. They include preparations for increasing the growth of the hair or curing baldness, and preparations for altering the colour of the hair. The line of division, however, is not a sharp one; of the articles sold for altering the colour of the hair some are plainly called dyes, but others are stated to restore the colour of hair that is turning grey without dyeing it, and for some of these it is also claimed that they increase the growth of the hair. It is, therefore, more convenient to arrange hair preparations in three groups—namely, hair growers, hair "restorers," and hair dyes. We give here the results obtained by analysing a small number of preparations selected from each of these groups, together with some extracts from the statements made in regard to them by the proprietors, either on the labels or in circulars, letters, or newspaper advertisements.

A.—HAIR GROWERS.

TATCHO.

(THE "GEORGE R. SIMS" HAIR RESTORER.)

This is to be obtained from the George R. Sims Hair Restorer Company, 31, Great Queen Street, Holborn, London.

It appears from the label that there are three varieties of this preparation, known as "Tatcho" oily. "Tatcho" non-oily, and "Tatcho" (concentrated). The non-oily, described as "A brilliant spirituous tonic, free from all grease," was taken for analysis. A bottle of this, containing 5¼ fluid ounces, was priced 2s. 9d. It is thus described:

The certain, trusty, genuine, right, honest Hair-Grower. There is no other.

Without "Tatcho" loss of hair is inevitable, but Mr. Geo. R. Sims has altered all that.

If your hair has become scanty or grey, get "Tatcho" to-day. It will bring back the hair of your youth, make a new being of you, and give you a new grip upon life.

The label and wrapper bear the following:

Certificate.

I guarantee that this Preparation is made according to the Formulæ recommended by me.

Geo. R. Sims.

The directions are:

Sprinkle a few drops on the head each morning, and brush the hair thoroughly after application.

Analysis showed the composition to be:

Borax	2.7 parts.
Glycerine...	2.5 ,,
Quinine	0.006 part.
Formaldehyde solution (40 per cent.)	0.38 part.
Colouring matter, brownish-yellow, and perfume	traces.
Alcohol	2.4 parts by measure.
Water, sufficient to produce 100 parts by measure.	

The estimated cost of the ingredients for 5¼ fluid ounces is ½d.

EDWARDS' HARLENE.

This is to be obtained from Edwards' Harlene Co., 95 and 96, High Holborn, London, W.C. A bottle, price 2s. 6d., contained 6 fluid ounces.

The package contained a booklet on "Harlene Hair Drill," from which the following extracts are taken:

Among all the scores of preparations for the Hair which are offered to the public (and it may be taken for granted that the proprietors of "Harlene" have analysed them all very carefully) many prove to be so wide of the mark as to be actually injurious in a very high degree, while a few may do no particular harm, but certainly no good; for, as we have said, Nature's requirements must be met in the precise measure—neither in a greater nor a less. . . .

"Harlene" alone answers all requirements; it has the property of penetrating direct to the roots of the hair, stimulating them to renewed vigour, cleansing the cells which line the way; and, above all, it conveys to the hair-bulbs the peculiar food which they require—the only food Nature has ordained can act as nourishment for them; the food they otherwise obtain from the blood. No other preparation contains this ingredient, and therefore no other preparation can be successful. . . .

the proprietors of "Harlene" recognizing that users of their specific have an undoubted right to look to them for the best information obtainable on this subject have, over a considerable period, conducted experiments to test thoroughly every method of "drill" not requiring the use of instruments.

Elaborate details follow of the method of carrying out the "drill," of which a sample may suffice:

The manner in which a cat moves among shrubbery is a good illustration as to the way the fingers should be moved through the hair; the manner in which a cat kneads its bed before laying on it, placing its paws on the material on which it will sleep, and pressing it down in a kneading manner until suitable, the paws never being lifted and brought down, but only relaxed before the pressure is applied; is exactly how this movement in the "drill" should be carried out.

Analysis showed the liquid to contain:

Borax	0.5 part.
Additional alkali, equivalent to anhydrous sodium carbonate	0.04 ,,
Solution of ammonia (10 per cent.) ...	0.12 ,,
Glycerine	0.4 ,,
Brown colouring matter and perfume	traces.
Alcohol	5.7 parts by measure.
Water, sufficient to produce 100 parts by measure.	

The small quantity of alkali, in excess of what was present as borax, may have been in combination with the colouring matter.

The estimated cost of ingredients for 6 fluid ounces is 1d.

KOKO.

A bottle of Koko sold by Koko-Maricopas Company, Limited, 16, Bevis Marks, London, E.C., price 4s. 6d., contained 12¼ fluid ounces.

The following extracts are from a circular accompanying the bottle:

Eradicates Scurf. Promotes Growth. Prevents Hair Falling. Contains No Dye. Will positively Stop Hair from Falling Out, and prevent it turning Prematurely Grey. Will certainly Increase the Growth of the Hair, and if consistently used will make it Bright, Soft, and Wavy. . . . The strong assertions of interested sellers of preparations cannot be relied on, and testimonials, as a rule, cannot be safely taken as genuine unless the position of the writer places him or her above suspicion. We often think that the public must be sick of seeing the eternal "This is the best" attached to every conceivable article which is offered for sale; and for this reason we usually refrain from saying much about Koko, leaving it to our illustrious patrons to speak of its good qualities.

The directions for use are:

The best plan is to apply Koko freely, and brush the scalp until a warm glow is produced. This treatment should be practised once or twice a day, or at intervals of a few days, according to the state of the scalp.

Analysis showed it to contain:

Borax	1.4 parts.
Glycerine	1.7 ,,
Formaldehyde solution (40 per cent.)	0.1 part.
Perfume	a trace.
Alcohol	3 parts by measure.
Water, sufficient to produce 100 parts by measure.	

The estimated cost of the ingredients for 12¼ fluid ounces is 1d.

B.—HAIR RESTORERS.

LOCKYER'S SULPHUR HAIR RESTORER.

This preparation bears the names of John Pepper and Co., Limited, Bedford Laboratory, London, S.E. The price of a bottle containing 12 fluid ounces is 1s. 6d. It is described as:

The Best. The Safest. The Cheapest.

Restores the colour to Grey Hair. Instantly stops the Hair from fading. Occasionally used, Greyness is impossible. If the Hair is actually Grey, the Sulphur Restorer in six or seven days effects a great alteration. By a gradual action, scarcely perceptible even to watchful observers, several darker shades will be attained. In a period of three weeks a complete change occurs, and a colour exactly resembling that lost will become manifest.

*Previous articles of this series were published in the following issues of the BRITISH MEDICAL JOURNAL: 1904, vol. ii, p. 1585; 1906, vol. ii, pp. 27, 1645; 1907, vol. i, p. 213; vol. ii, pp. 24, 160, 209, 393, 530, 1653; 1908, vol. i, pp. 833, 942, 1373; vol. ii, pp. 86, 505, 1022, 1110, 1193, 1285, 1566, 1697, 1875; 1909, vol. i, pp. 31, 909, 1128; vol. ii, p. 1419.)

Where the Sulphur Restorer is applied scurf cannot exist, and a sense of cleanliness, coolness, etc., prevails.

Directions:

Well shake the bottle, and immediately apply the Restorer to the roots of the Hair. A very small sponge is convenient for this purpose. At first it should be used daily, but when the required shade is obtained, two or three times a week will suffice.

Analysis showed it to contain:

Precipitated sulphur	1.3 parts.
Lead acetate	1.6 ,,
Lead sulphate	0.4 ,,
Glycerine	9.6 ,,
Rose water sufficient to produce 100 parts by measure.	

The lead sulphate was probably due to some reaction having occurred between the lead acetate and sulphur, with oxidation; assuming this to be so, the amount of lead acetate originally present would be 2.1 parts.

The estimated cost of ingredients for 12 fluid ounces is 2d.

MEXICAN HAIR RENEWER.

A bottle of this preparation, which is sold by the Anglo-American Drug Co., Ltd., 33, Farringdon Road, London, contained 7¾ fluid ounces; the price was 3s. 6d.

It is described as:

For restoring grey hair to its original color without dyeing it.
For renewing or causing hair to grow on bald spots.
For preventing dandriff and the hair from falling out.
For making the hair soft, glossy, pliant, and luxuriant.
Daily application of this preparation for a week or two will surely restore Faded, Grey, or White Hair to its natural colour and richness. If properly applied, it never fails; but it should be well shaken before using. It is not a dye, nor does it contain any colouring matter or offensive substance whatever. Hence it does not soil the hands, the scalp, or even white linen, but produces the colour within the substance of the hair. In many cases it has been successful in causing new hair to grow on bald spots, and it can be confidently recommended in all cases, unless the hair-glands are decayed; for if the glands are decayed and gone, no stimulant can restore them; but if, as is often the case, the glands are only torpid, "The Mexican Hair Renewer" will renew their vitality, and a new growth of hair will follow.

Directions for use:

First.—Turn the bottle cork downwards and shake it thoroughly. Turn a little into a saucer, apply it briskly to the bald spots, and thoroughly wet all the gray hair every morning for a few weeks, and, unless the hair glands are decayed, new hair will grow, and the gray hair turn to its original colour, then an occasional use is sufficient.

Analysis showed it to contain:

Precipitated sulphur	1.4 parts.
Lead acetate	0.13 ,,
Glycerine	19.0 ,,
Rose water, sufficient to produce 100 parts by measure.	

A second bottle, however, contained 0.97 part of lead acetate in 100 parts by measure, or about eight times as much as the first bottle.

The estimated cost of the ingredients for 7¾ fluid ounces is 2d.

VILIXIR.

A preparation called "Vilixir" is sold by the Vilixir Company, Limited, Bromley Hydro, Kent. A 12s. 6d. bottle contained 5½ fluid ounces. This preparation has been largely advertised of late, the advertisement in some cases taking the form of a half-page display in a newspaper so worded as to convey the impression that it was published as news. The following extracts are from such an advertisement:

Great interest has been aroused by the recent announcement in this paper of a unique and useful discovery made at the Bromley Hydro, near London, of a method of actually restoring the natural colour to faded, grey, or white hair.

So much curiosity has been aroused, indeed, that the authorities have been compelled to publish in pamphlet form the full particulars of this discovery (a copy of this interesting publication may be obtained on application to the person and address given later in this second review of the discovery and its possibilities of usefulness to the Public). . . .

No actual colouring agent is employed in the new dye-less and stain-less method. Instead, the hair's sleeping pigmentary process is reawakened. . . .

The new way of making people's hair show true colours is, happily, an inexpensive one.

The following extracts are from letters received from the Vilixir Company, after application for the pamphlet mentioned above:

The "Vilixir" Treatment differs from all other ways and means of colouring the hair. It does not put on an artificial colour—it will bring out the natural colour of your hair. . . .

At this Hydro we have assistants who have become expert in the obtaining of the best possible results from the Treatment, and if you would like to have us do all that is necessary for you, I shall be happy to quote you terms to include a short stay at this Hydro. . . . It is not necessary to the success of the Treatment, however, that you carry it out at this address. I can send the "Vilixir" and full directions to enable you to restore the natural colour of your hair in the privacy of your own home.

. . . the "Vilixir" Treatment is absolutely non-injurious either to the skin or to the hair; its action is wholly beneficial in every way. It promotes growth on the bald patches (unless the roots are absolutely perished); it thickens and lengthens the growth over the whole of the head; it stops falling out, and, most important of all, its effects are comparatively permanent.

The directions on the label are:

Shake the bottle and apply the liquid night and morning to the scalp with a small brush, rubbing in for two or three minutes, and finally brush the hair for a few seconds with the brush moistened with "Vilixir."

The bottle of liquid that was sent in return for 12s. 6d. was accompanied by about ¼ ounce of shampoo powder, for shampooing the head before the first use of "Vilixir." This powder was found to consist of

Borax	4.6 per cent.
Powdered soap	24.4 ,,
Partly exsiccated sodium carbonate .	71.0 ,,

Analysis showed the liquid to contain

Precipitated sulphur	3.2 parts.
Lead acetate	1.8 ,,
Glycerine	5.7 ,,
Rose water, sufficient to produce 100 parts by measure.	

The estimated cost of the ingredients for 5½ fluid ounces of the liquid and ¼ ounce of the powder is 1d.

C.—HAIR DYES.

W. SEEGER'S HAIR DYE.

This preparation bears a copy of signature "W. Seeger," and the words "made in Germany" on the package, but no address.

A bottle, price 2s., contained 1⅓ fluid ounces.

Directions for use:

Before applying Seeger's, wash the hair in lukewarm water in which you have melted a piece of ordinary household soda of the size of a walnut to each quart of water you use. Then, when the hair is perfectly dry, pour a little of the dye into a clean saucer, dip the teeth of a perfectly clean fine tooth comb into the dye in the saucer, and pass the comb several times through the hair where it is required to be dyed. Now allow the dye to dry on the hair. While the hair is drying, comb it now and then, so that the dye, which does not become visible for some hours, may come in contact with the air and an equal shade be obtained. The day following, the dye which has not dried in can be washed out with clean water without soda.

The dye is prepared in three shades, for blonde, brown, and black; the "brown" was taken for examination.

Analysis showed the dye to contain, in 100 parts by measure:

Pyrogallic acid	3.8 parts
Cupric chloride (anhydrous)	1.8 ,,
Hydrochloric acid (*B.P.* strength) ...	0.75 part
Sulphuric acid	0.07 ,,

The liquid was much darker than a solution freshly prepared according to this formula; but the dyeing effect of the two was practically identical, and the difference in appearance appeared to be due to decomposition of a part of the pyrogallic acid having taken place in the original.

The estimated cost of the ingredients for 1⅓ fluid ounces is ½d.

SHADEINE.

This preparation, sold by L. Alexandre, 58, Westbourne Grove, London, W., was in a bottle which contained 3½ fluid ounces, and was priced 3s. 6d.

It is thus described:

Shadeine is a new and important chemical discovery which regenerates and develops the original colour of grey and faded hair, at the same time tinting it a perfectly natural colour. . . . It contains neither lead, silver, mercury, sulphur, nor any objectionable stain.

Directions for use:

Wash the hair, if in the least greasy, with soda and warm water. When dry, pour a little Shadeine into a saucer, and with a small brush apply evenly over the parts to be coloured, then allow it to dry. A small quantity only should be used at a time, and the colour allowed to develop during the day. As soon as the shade is satisfactory, wash or brush off superfluous stain.

This preparation is made in seven colours. The one that was taken for examination was labelled "Brown."

Analysis showed it to contain in 100 parts by measure:

Pyrogallic acid	... 2.1 parts.
Cupric chloride (anhydrous)	... 1.3 ,,
Hydrochloric acid (*B.P.* strength)	... 0.3 part.

The estimated cost of the ingredients for 3½ fluid ounces is ¾d.

JUVENIA.

The hair dye called "Juvenia" is made by Guesquin, pharmaceutical chemist, Paris, and is supplied by Osborne, Garrett, and Co., London and Birmingham. A package, price 4s., contained two bottles, Nos. 1 and 2, each containing about 2⅓ fluid ounces; the liquids to be mixed at the time of using.

It is thus described:

This marvellous dye is guaranteed not to contain mercurial salts, it is altogether of a vegetable nature and harmless.

"Juvenia" instantly restores white hair and grey beard to their original colour, from auburn to the most jet black tints.

We specially recommend persons who wish to dye their hair or beard to follow our advice word for word.

It is well known that subjects suffering from arthritis, herpes, or eczema ought to abstain from eating sea-fish, shell-fish, sorrel, strawberries, etc., under penalty of provoking eruptions or eczema spots. Accordingly, generally speaking, such persons ought to entirely give up the use of all instantaneous dye, and make use of nothing else than our progressive regenerators alone, the use of which we advise for them, in preference to any other.

If, in spite of our advice, those persons subject to the above-mentioned affections, persist in dyeing their hair, they ought at any rate to consult their doctor.

It is necessary, in fact, to have oneself thoroughly examined as far as the scalp is concerned, before the application of a dye, and this recommendation may especially be given to ladies. At times, they may prick themselves with their combs, their hat or hair-pins, the result being small sores which ought not to be irritated or skinned. The scalp ought to be absolutely intact, and if need be, one must wait till all flaying is well healed.

Analysis showed the "liquid No. 1" to be a solution of hydrogen peroxide containing 2 per cent. of real peroxide, or two-thirds the strength of the ordinary "10 volume" solution. Liquid No. 2, or "Juvenia" itself, was found to contain:

Paraphenylene-diamine ...	... 0.9 per cent.
Solution of ammonia ...	... 0.6 ,,
With a trace of fixed alkali, probably dissolved out of the glass of the bottle.	

A solution prepared in accordance with this formula gave an exactly similar result in dyeing hair. The estimated cost of the ingredients for the contents of the two bottles is 1½d.

ADAMS v. POMEROY.

AN APPEAL.

THE expenses incurred by Dr. Adams over and above the taxed costs in the action brought by Ler against *Vanity Fair* and others, including the Hon. Ernest Pomeroy, amount to about £100, of which £60 19s. have already been collected. Further contributions from members of the profession who followed the case and who wish to show their practical sympathy, will be gratefully acknowledged by the Honorary Secretary of the fund raised to reimburse Dr. Martha Adams.

Dr. L. Garrett Anderson, 114A, Harley Street, London, W., has received the following contributions since the publication of the last list:

	£	s.	d.
Dr. Henry Russell Andrews	1	1	0
Dr. W. Dometh Stone... ...	1	1	0
Dr. George McIntyre	1	1	0
Dr. James Taylor (Tandragee)	1	1	0
Dr. William Frier	0	10	6

LITERARY NOTES.

SIR SAMUEL WILKS has contributed to the *Guy's Hospital Gazette* of December 25th, 1909, a very interesting account of Thomas Hodgkin, whose name lives in the history of pathology by his discoveries, and in the history of medical teaching in London by the fact that he was one of the most ardent workers in the formation of the medical school at Guy's Hospital, which was opened on June 21st, 1826. Hodgkin was appointed the first curator of the museum and lecturer on pathological anatomy. He was born at Tottenham, of Quaker parentage, in 1798, studied medicine at Edinburgh, where he graduated in 1823, being complimented on the Latinity of his thesis, which was entitled *De absorbendi functione*. After travelling for some time on the Continent he began to practise his profession in London, but gave almost all his time to the study and teaching of pathology and to the development of the museum. He published *Lectures on the Morbid Anatomy of the Serous and Mucous Membranes*, and in 1829, when he issued a catalogue of the preparations in the museum, they amounted to 3,000. He was the first to describe clinically, as well as pathologically, a case of torn and retroverted aortic valve; the patient was a young man who, when at Cambridge, was famous as a rower and an all-round athlete. Hodgkin's description of the disease which bears his name was published in the *Medico-Chirurgical Transactions* for 1832, vol. xvii, in a paper entitled "On Some Morbid Appearances of the Absorbent Glands and Spleen." The name of Hodgkin's disease was given by Sir Samuel Wilks, who showed a specimen at the Pathological Society in 1865; the disease was then so little known that he was credited with having made an original observation. Hodgkin seems to have been the first to observe the *Trichina spiralis* in human muscle; he thought the cysts might be the eggs of pediculi. Hodgkin was keenly interested in comparative anatomy and in physiology, as light was thrown by these sciences on malformations and monstrosities which he came across in his daily pursuits. Sir Samuel Wilks says "he evidently had a strong conviction of evolution, and explained in this way the retention of some form of fetal life which resembled those of the lower animals. On the occasion of Oxford's attempt on the life of Queen Victoria, Hodgkin wrote a pamphlet in which he discussed the question of moral insanity. He also wrote on the natural history of language, and on the influence of physical agents on life. He was disappointed at not getting an appointment on the medical staff of Guy's, and consequently resigned his position in the school, which he had held for twelve years. This is described by Sir Samuel Wilks as "an immense disaster to the cause of scientific medicine." Hodgkin practised for a time, but his generosity was imposed upon and he made little by it. Many of the later years of his life were given to philanthropic work, in which he co-operated with Sir Moses Montefiore. While on a visit to Palestine with Sir Moses, Hodgkin was struck down by an Eastern malady, and died at Jaffa in 1866.

Dr. Herbert P. Thompson writes:

With reference to the address given to the Belfast undergraduates by Dr. G. A. Gibson, which was published in the JOURNAL of December 4th, 1909, I was much interested to observe his mention of my native village, Croyland. Abbot Joffrid, who became head of the monastery in 1109, sent a doctor of great learning and three other monks, well instructed in the sciences, to Cottenham, near Cambridge, there to establish themselves as preachers and teachers. They began a course of lectures in a barn which they hired, and so popular did they become "that soon no building was large enough to hold their hearers." The Abbot Joffrid paid them a visit, and "though his audiences only knew the English tongue, and he knew nothing but French and Latin, yet merely by looking at him, they were so moved by the graciousness which appeared in his countenance that they often shed tears, and contributed largely to the Croyland funds." This was the beginning of what is now Magdalen College. St. Guthlac, the patron saint, a relative of the King of Mercia, rode away into the marshes and landed on the island of Croyland, and there he founded the abbey in the year 816 A.D. Here Torfrida, the wife of Hereward the Wake, the last of the Saxons, was buried. The first peal of bells that was ever heard in England was rung in Croyland Abbey, and Croyland possesses the unique triangular pack-horse bridge of the 12th century. It used to span the previous junction of the rivers Welland and Catwater. As the course of the streams has been changed, the bridge now stands high and dry in the street.

Nova et Vetera.

MODERN FAITH HEALING.

JOHANN JOSEPH GASSNER.

The career of Johann Joseph Gassner, an eighteenth century faith healer, presents many points of similarity with that of Valentine Greatrakes, an account of whom was given in the Journal of April 17th, 1909, p. 963. The chief point of difference between them is that whereas Greatrakes says he had "an impulse, or a strange persuasion in his own mind," of which he was not able to give any rational account, which very frequently suggested to him that there was bestowed on him the gift of curing the king's evil, Gassner treated disease frankly as a manifestation of Satanic agency. His name is probably now known to none but students of the history of spiritual healing, and an account of his "cures" may therefore be of some interest.

Gassner was born at Bratz, near Bludenz, on the frontier between Tyrol and Suabia, on August 20th, 1727. After studying at Innsbruck and Prague he became a priest, and in 1728 was appointed to the cure of Klösterl (? Klosters) in the diocese of Chur (Coire), in the Graubunden (Grisons). There he discharged his clerical duties to the entire satisfaction of his superiors and parishioners for some fifteen or sixteen years, when a rumour began to spread abroad that he cured all kinds of diseases by the laying on of hands without the use of any remedy. He was even said to have cured a patient (the Countess of Wolfegg) at a distance, by simply sending her his blessing. Soon patients began to flock from all parts to Klösterl. At first they came by fifties and sixties, but soon the number increased tenfold. At last, yielding to entreaties that were made to him to make his head quarters in some more accessible place, he got permission from his bishop to leave his parish for a time. He went successively to Wolfegg, Weingarten, Ravenspurg, Detlang, Kirchberg, Morspurg, and Constance, casting out devils and curing the sick. The Cardinal-Bishop of Constance, suspecting illusion or fraud, had Gassner examined by an official theologian. The healer made a perfectly orthodox profession of faith, and affirmed that he had never given himself out as a saint or a miracle worker. He protested that he only used the power conferred by ordination on all priests and even on simple exorcists to cast out in the name of Jesus Christ the devils who were, according to him, often the cause of disease. His discovery of his healing power was made on himself. He had long been troubled by severe headache and other infirmities, for which he could get no relief from the doctors of Innsbruck. He then sought for a remedy in medical treatises. At last suspecting that the cause of his illness might be supernatural, he had studied all the books on obsessions which he could get hold of, and had convinced himself, by the success of these exorcisms on himself as well as on others, that the diseases to which mankind is liable are of three kinds: There are some which are entirely natural, and therefore belong wholly to the domain of medicine; there are others, perhaps as numerous, entirely the work of the devil, which are caused by an "obsession," and can be cured by exorcism carried out by the invocation of the holy name of Jesus with faith by any priest whatever. Others, again, are caused by a "circumsession"; in these the diabolic invasion is complicated by a natural cause. The prelate, having made inquiries which convinced him of the soundness of Gassner's faith, of his submission to lawful authority, and of the purity of his morals, gave him permission to continue his exorcisms. This he accordingly did at Ellwang, Salzbach, and Ratisbon, from September, 1774, till the end of the following year. Crowds of patients flocked to him in ever-increasing numbers from all parts of Germany, Switzerland, and France. Among them were not only Catholics, but Protestants and Jews, and little children of 6 or 7 years of age. A notary or other public official kept a register of the interrogatories, the answers, and all the details of each case. This report was signed every day by the principal among the numerous spectators and by doctors, especially such as were Protestants, when any happened to be present.

The following was the mode of procedure. After one or two general questions addressed to the patient, Gassner, if there seemed to be reason to believe that it was a case of obsession or circumsession, began by performing what he called a test exorcism, by summoning the devil to make the patient exhibit the symptoms of the disease which was his handiwork. If nothing extraordinary happened the disease was declared to be natural, and Gassner passed on to another patient. Most frequently, however, the convulsions or cries of the patient announced the presence of the evil spirit and his obedience to the voice of the exorcist. The Protestants said that the pretended signs and convulsions were merely performances arranged beforehand, or produced in people by the influence of the imagination when they were off their guard. To convince unbelievers Gassner later prolonged his test exorcisms during several hours, putting questions to ignorant people and children in Latin, commanding the devil to cause the most extreme and sudden disorder in the patient's pulse, ordering the fever to show itself only on one hand, to pass from one hand to the other, thence to the foot, and other parts of the body. The doctors who held the patient's wrist are said to have been amazed at these singular phenomena, which they could not explain.

The Duke of Würtemberg having expressed a wish to examine these wonders for himself, Gassner respectfully invited him to do so, and in order to banish every suspicion of fraud begged him to name the doctors who should accompany him, the patients on whom the rite should be performed, and those by whom it should be witnessed. All these conditions were complied with. The report of the proceedings, signed by the principal persons present, and having the signature and seal of the priest attached thereto, was taken to Paris during a visit paid to that city by the duke in 1777, and was shown to many persons.

Naturally there were many sceptics and not a few active opponents. Gessner's most formidable opponents among the Catholics were Father Sterzinger, a Theatine, and the celebrated physician Anton von Haen of Vienna. The former, having gone from Munich to Ratisbon to be present at one of the exorcisms, saw nothing in it which he did not think could be explained as the effect of electricity, magnetism, or some yet unknown physical agency. Von Haen had never seen Gassner, but from reports received from various correspondents he was led to the conclusion that some of the effects could not be explained by natural causes; nevertheless, he held that they could not be described as miracles, as they tended to scandal rather than to edification. His conclusion, formulated in a treatise entitled *De Miraculis*, was that they should be regarded as works of the devil. Von Haen's reasoning was apparently more that of a theologian than of a physician.

As examples a few cases may be given. Of one of Gassner's early cures which brought him most into fame, Sterzinger gives the following account (p. 5):[1]

> Once he had the luck to make a certain Countess von Wolfegg who had long been bedridden, get up, and that extended his fame as far as Mörsburg. At the supplication of many noble personages the Cardinal-Bishop of Constance was induced to allow the priest of Klösterl to come to the city where he held his court. In the month of July 1774 he entered Mörsburg amidst the cheering of the populace. But the air of that country did not agree with him, men of acute intelligence found his proceedings so foolish and harmful and so contrary to Christian principles, that His Eminence was persuaded to give the spiritual physician the *consilium abeundi*. I have by me a letter from a great landed proprietor of Mörsburg who had himself seen and noted all, from which I extract the following:
>
> "July 30th, 1774.
>
> "As many persons of rank as ordinary people were here for 10 days for the coming of the priest of Klösterl, whom they looked on as their saviour. The first cure took place in the convent, where the Canoness von Blarer presented herself to be cured of epilepsy. In the afternoon the healing performance took place in the Seminary, where the priest of Klösterl wrought his cures. First, there was the deaf Frau von Landsee from Ueberlugen. Secondly, there was the blind priest of Hettingen. Thirdly, there was the lame chaplain of Schönberg near Rothweil. Fourthly, there was a possessed person who firmly believed in Gassner."

After saying that Gassner's whole method of dealing with his patients seemed to him to savour of charlatanism and to consist in making the sick believe they were cured

[1] *Die aufgedeckten Gassnerische Wunderkuren aus authentischen Urkunden beluchtet, und durch Augenzeugen bewiesen.* By Ferdinand Sterzinger. 1775.

when in reality they were not, the writer goes on to say:

The blind priest of Hettingen, in spite of prayers said aloud for spiritual assistance and in spite of the strong faith he had in the name of Jesus, did not recover his sight through Herr Gassner. The spiritual physician, it is true, took him to the window, and the patient, who had cataract, perceived a little light and could recognize the red colour of Herr von Sickingen's clothes and the star on the black robes of the Herr von Rothberg. Then a white sheet of paper was held before his eyes, and he said it was something black, etc. In a word, the good priest of Hettingen was not a pin better than he had been before.

The following passage is very significant:

Again the feet of the lame Chaplain of Schönberg were not relieved. It is true that through his frequent ejaculations of: "Non debet consentire Dolori, sed resistere fortiter in fide," Herr Gassner managed to get his patient to rise and go down to the lower town with Wildenmann, but he had to be led, and suffered at each step so much from the pain that he ground his teeth.

Elsewhere it is stated:

I have seen no case of real possession for Gassner to exorcise. The trick with an epileptic person was discovered by the court quarter-master; the exorcist, in the name of Jesus, frequently commanded the paroxysms of the little girl to cease; she finally knelt before him with her hands clasped together as if in prayer, then lay down slowly, but so carefully, that she did not displace her hood. The exorcist declared that this was a paroxysm. The court quarter-master contradicted this, and spoke to the girl, who answered him. The exorcist was put to shame, and soon dismissed his patient.

The following is an extract from a letter written by the Cardinal-Bishop of Chur on September 6th, 1774:

The first operation that I had the honour to see was on Fräulein von B——, who had a lame foot, and already the spiritual physician had spent the previous day over its cure. The healer sat on a chair, with the patient near him. He took her by the head, then by the hand, and commanded the evil thing to come forth immediately, in the name of Jesus. The convulsions came on little by little, and he stilled them in the name of Jesus. After that he produced different spasmodic movements and convulsions in the patient; these he made to last now a longer, now a shorter time, and then through the powerful word "Cesset" he made them disappear. After that the poor Fräulein for about an hour sprawled about, stretched and moved her limbs as he ordered her, till he told her to stand up on the lame foot and walk. The Fräulein took courage, stood up on the ground where she had always limped, and went step by step a little way about the room, but I remarked that she forced herself to do it. After this the exorcist blessed her on the forehead with the cross which he wore like a bishop, murmured something unintelligible, and left her. I saw no trace of anything spiritual during the whole of this operation; therefore it did not surprise me that the spiritual healer cured Fräulein von B——'s lame foot through arousing cramps and different spasmodic movements.

The prelate explains the cure as follows:

Through the *distensiones* the nerves were drawn out, all the limbs were convulsed, and the inspissated humours in the affected parts were made fluid through the violent movements, so that the lame foot could henceforth move itself, until the thickened humours should accumulate again. How can one call such an artificial way of healing a holy way? The name of Jesus in the mouth of the faith healer seemed to me only a pretence of sanctity.

A modern physician would probably say that the lameness was caused by hysterical contracture, which was cured by the faith of the patient. Another case quoted in this letter is that of a sturdy peasant who had St. Vitus's dance. He had already seen Gassner treat Fräulein von B——, and was prepared to do all that the healer commanded. Gassner spoke to him earnestly, laid his hands on his neck and forehead, and shook him. He was forthwith freed from his disease, and "began to dance and snap his fingers. He danced three times round the room, at which all the spectators and even the exorcist laughed." The narrator goes on:

After that the faith-healer allowed the exhausted patient to recover his breath, and then commanded, in the name of Jesus, that epilepsy should be displayed. Accordingly the patient threw himself on the ground, lumbered about on his hands and knees, rolled about here and there, and bellowed like an ox. At the repetition of the word "Cesset" the peasant became quiet and stood up.

Another case was that of Franz Thurnes, son of the upholsterer to the electoral Court of Munich. He was an epileptic, and also subject to attacks of wind in the stomach:

After the necessary preparations, the healer made him swell his abdomen by three movements, until a powerful "Cesset" made it subside. I felt the stomach when it was swelled and also when it had subsided, but I cannot believe that this experiment expelled the devil with his circumsession. I still less believe that the spiritual performance had any medical efficacy. Then the healer commanded that the patient should be afflicted with epilepsy as he had had it. The patient became giddy, fell on the ground, and struck his head against an iron chest. After he had writhed about for a time, he stood up when ordered to, and the cramps attacked him. The patient breathed heavily, the cautious physician left him to recover, and appointed another hour in the morning to torture him once more.

Another case is that of a certain Count von S——, who had seen all the proceedings with impartial eyes. He asked the healer, "Could you cure me of gripes or colic, from which I often suffer, without touching?" "Why not?" said the healer; "if you only have a proper faith in the name of Jesus." "I have," answered the Count, "and I believe, as a good Christian, that Jesus as God is all-powerful." "You must also believe," continued the healer, "that your sickness comes from the devil." "As to that, I am indifferent," replied the prudent nobleman. The healer then commanded in the name of Jesus that the colic should appear, but it did not come. He commanded twice, and the exorcism had no effect. The healer got up from his seat, and was walking up to the count, when he was reminded that he ought only to remain seated; then he got rather angry, and in a voice that showed his temper he ordered, three times one after the other, that the colic should instantly appear. But it was of no use; the devil could not awake the stomach-ache without the touch of the priest. The healer availed himself of the only possible loophole, and said: "We can see, in this case, that the illness is natural." This incident took place in the house of the viceregent, where only six people were present. This experiment, says the narrator, furnishing a substantial reason for believing that there is a "secretum naturale" at the bottom of Gassner's cures.

According to this witness, Gassner, when asked if his "cures" were miracles, replied that they were only exorcisms. When it was pointed out to him that the Church had not instituted exorcism for the cure of the sick, and had always looked upon the cures of disease wrought by the Apostles in the name of Jesus as miracles, Gassner lost his temper and shouted his objector down.

The following account is interesting from its naïveté, It also shows that there was at least a strong suspicion of trickery, and that Gassner's operations were not regarded seriously by many of the witnesses.

I have as yet made no reference to Gassner's method of treating persons. The rôle which he played with people of this kind was so entertaining that it was a common saying at Ellwangen: "Let us go to the Gassner comedy." I went into the operating room one night at 9 o'clock with some other gentlemen and saw Gassner sitting by a table, upon which were two candles. Near it were two rows of seats for the nobility, and behind them was a space for the rest of the audience. At the side of the table stood the possessed and other infirm persons, and amongst them was Herr Riedmayr, a notorious exorcist from Munich, who had at his right side Magdalena Söluerin, the daughter of an artist of Munich, who was possessed. This young girl when she saw me, cried out, "Here comes our friend." I kept quiet, but she called me by name, and I said, "I know the speech of a wicked person; forbear from mentioning my name, or I will leave the assembly." Herr Gassner cried "Silence," and the evil spirit called me no more. I must say here how the girl had learnt to know me. Four years ago, when she was not yet 16, this person was brought before the exorcist as being possessed. I was told that a Capucin had expelled the devil from her, and that in his flight he had left behind his mark in the form of five indelible black scratches made by his claws on the white wall above the door. As I do not believe in anything unusual until I am convinced as to the facts, I went to the artist's house on April 25th, 1772, where I was conducted to see Lenerl, and the whole history, with all its circumstances, was related to me—how through a *maleficium* she was tormented by the devil, how he troubled her, and finally how her illness left her. I went into all the proofs with Lenerl . . . and found that the black marks were painted with Indian ink; the fraud was exposed, and Lenerl was put into the House of Correction, and examined, and as she stuck to her deceit, condemned to a year's work in the local Bridewell; when she returned to her parents it was perceived that she was not possessed, but hysterical. Then came the rumour of Herr Gassner's fame to Munich, how he had the power to cast out the devil from those possessed, and Lenerl

again became possessed: she had an epileptic fit on a couple of chairs on the grass-plot before the nuns' church, and therefore every one believed firmly that she was possessed; and she found some charitable people who gave her money to enable her to travel to Ellwangen.

This Magdalena Söluerin was the first with whom the priest of Klösterl began his comedy. . . . The exorcist asked: "What is your name?" "Lenerl." "How long have you been possessed?" "Six years." "Is there any one present who can affirm to the truth of this?" Herr Riedmayr, a secular priest of Munich, who had travelled to Ellwangen with this person, answered: "I give you my word as a priest that this creature has been possessed for six years, and what is still sadder she was confined three years ago in the House of Correction for it." "That is not right," said Gassner, beginning to hold forth, "poor people might disguise themselves as possessed persons in order to get alms, but not such persons as this; she is truly possessed, and whoever does not believe it, hurts her reputation, and commits a mortal sin." . . . The exorcist further asked: "How are you possessed?" "The devil has got into me with my food." [This would seem to show that the girl had in her own way anticipated certain modern theories as to the origin of disease.] After that the exorcist put several other questions to the pretended demoniac, and then by means of his mystic art, he aroused in her the hysterical illness to which she was subject; he let her lie about the ground in convulsions, and then quieted her. He also performed his universal experiment; he put the girl's right hand, with the fingers divided and stretched out on to the table, and cried out: "Let the hand become quite rigid."

A courageous gentlemen, wishing to be convinced, put one finger after the other on it, and finally the whole hand. The exorcist did not like this; he grew sulky, took the girl's left arm, stretched it out, and commanded in a terrible voice: "Let this arm be as stiff as a bar of iron!" But this experiment was rendered ridiculous by the same gentleman, who bent her arm into an arch. The Count, with the object of investigating the state of demonial possession, wished to speak to her in French; but she answered: "I only understand German." The exorcist himself, desiring no more ridicule, took Magdalena Söluerin by the head, sent the devil into her right foot, dismissed her in peace, and appointed a time for her to come the next day. Then came on the scene another person believed to be possessed, an unmarried woman of about 24. The exorcist treated her as he treated all persons similarly afflicted; that is to say, he asked her some questions, allowed her to fall into the fits and convulsions with which such persons are afflicted, and then banished the illness. Another thing which struck the audience with amazement was his putting her into a dying condition, and she appeared, as she lay in the exorcist's arms, to be in the last agony. Two doctors felt her pulse, and found it to be that of a dying person. . . . The exorcist was so pleased with this experiment that he did not torture the woman further, but commanded the devil to go forth, opened her mouth, and said that the devil was gone. Some one, who stood behind my chair, said: "I see the evil spirit already hovering about." But this eccentric person was the only one who had the luck to see so rare a phenomenon. It was already half-past twelve at night, and I went to my lodgings.

One day of the "Gassner comedy" was enough for this witness, who made haste to leave the "bewitched town" of Ellwangen. It should be said here that all witnesses agree that Gassner took no fee for himself. But his "cures" brought custom not only to innkeepers but to apothecaries. One of the writers whom we have fished up from what Carlyle calls "foul Lethean quagmires,"[1] says the whole town of Ellwangen was overflowing with strangers from every province in Germany, and even from Poland and Italy. The apothecary sold a universal eye water, a common olive oil, a universal powder, and a medicinal tea. The oil and the powder had been blessed by Gassner. In one day the apothecary made out of these trifling things alone a profit of over 100 rix dollars. What happened at Ellwangen occurred later at Ratisbon. Speaking of the after-effects of Gassner's cures the same writer says:

Most (some say all) relapsed. Some, after undergoing the operations, died when they returned home, or became worse than they were before. I know towns from which 200 or 300 people journeyed to Herr Gassner, and there is not one of those patients who can say with truth: "I am well; he helped me." The thing in the long run had no lasting effect. But, on the contrary, I could name persons soon after their return home from being cured at Ellwangen—people who were half blind becoming totally blind, melancholics who went completely mad. Many, who had already been to Herr Gassner at Klösterl and Ellwangen, travelled to him a second time at Ratisbon. For a little time all went well, but soon afterwards they were the same as before.

Gassner defended himself in pamphlets, in which he maintained that his method of cure was expulsion of the devil.

The epidemic of obsessions continued to spread to such an extent that the authorities took alarm. The Bishop of Constance and the Archbishops of Prague and Salzburg forbade Gassner to "practise" in their dioceses, and Joseph the Second, by an Imperial Decree, dated 1777, expelled him from Ratisbon. The Prince-Bishop of that city, who had named him his chaplain with the title of Ecclesiastical Councillor, permitted him for some time to continue his operations at Ellwangen, where he still was on October 1st, 1777. The force of public opinion, however, soon compelled him to send back Gassner to his work as a priest. The healer died, forgotten by the world, on April 4th, 1779.

From a study of the available accounts one gets the impression that Gassner acted in good faith. He may have suffered from a little spiritual exaltation in the display of the powers which he believed himself to possess. It is equally clear that the majority of cases in which he wrought "cures" were examples of pronounced hysteria, on which he operated by suggestion. It is easy to understand that such formulas as *Cesset illa debilitas! Modo adsit febris tantum in manu et brachio dextro! Cesset in ista manu et adeat ad sinistram!* and *Praecipio hoc in nomine Jesu*, pronounced in an authoritative voice, must have had a powerful effect on the mind of the credulous and superstitious.

A point which is of special interest to us in these days is that Gassner's method—the laying on of hands, accompanied by prayer and exhortation to faith—is exactly that of the spiritual healers of our own time. In particular, the words *Non debet consentire dolori sed resistere fortiter in fide* contain the very marrow of Christian Science.

[1] *Politische Frage ob ein weislich regierender Landesfürst über die Gassnerischen Kuren ohne Nachtheil seiner Unterthanen noch länger gleichgültig sein Kann 1775.*

APPEAL ON BEHALF OF MR. H. W. COX.

SIR WILLIAM TRELOAR, who was Lord Mayor of London in 1906–7, has made an appeal for a fund on behalf of Mr. H. W. Cox, who was one of the first manufacturers and perfecters of *x*-ray apparatus for medical use. Nine years ago Mr. Cox began to suffer from dermatitis, and five years ago the middle finger of his left hand was amputated. His condition since then seems steadily to have deteriorated; four years ago the face, mouth, and chin were severely affected; eleven months ago three fingers of the right hand were amputated, and last November it was found necessary to amputate the right arm. There is dermatitis also of the chest, and the left hand is withered. Mr. Cox is 46 years of age, has a wife who nurses him, and three sons, aged respectively 12, 14, and 16 years. He had to give up work six years ago, and the grant made to him from the Royal Bounty Fund was a lump sum of £200, not a pension as has been thought in some quarters.

Mr. Cox is a victim of science in its application to medicine and surgery, and his crippled condition and the pain which he suffers will, we are sure, appeal to the generosity of the medical profession as well as of the public.

Contributions may be sent to the Cox Fund, 69, Ludgate Hill, and cheques should be crossed London City and Midland Bank, Ludgate Hill.

British Medical Association.

ANNUAL SUBSCRIPTION, 1910.

Members are reminded that the Annual Subscription, amounting to 25s., is now due.

Cheques or Postal Orders should be made payable to the British Medical Association, and crossed London County and Westminster Bank.

In the case of Colonial Members the subscription should be paid to the Honorary Treasurer of their respective Branches.

By Order of the Council,

GUY ELLISTON,

Financial Secretary and Business Manager.

429, Strand, London.

British Medical Journal.

SATURDAY, JANUARY 15TH, 1910.

SPINAL ANALGESIA.

WHEN the method of subarachnoid anaesthesia first appeared it was regarded with sceptical tolerance or timorous curiosity. There followed in some parts of the world a stage of enthusiasm, and only now, after a decade, has it become possible to form a considered judgement of its true worth and proper sphere. In passing through these phases the method shared the fate of novelties in many departments of human activity besides the practice of medicine. To take an instance from this field, however, it may be said of the antiseptic system that, whilst the first stage of amused contempt was brief, it has taken many years to establish the limitations of its usefulness. Many years passed before the deep-rooted fear with which surgeons had learnt to regard the peritoneum was dispelled. Even now it is by no means appreciated amongst medical men that so far as the control of micro-organisms is concerned, the spinal cord and its membranes are on the same footing as other tissues. Not many surgeons now would refuse operation on the score of the danger of infection to the peritoneum. When asked if they would submit to puncture of the spinal canal for anaesthetic purposes, the answer is generally guarded, or emphatically negative. Of course, the origin of this attitude is not simply a question of sepsis. It is born also of doubts as to the virtues and the freedom from risk of the various drugs employed, especially in immediate relation with the actual tissue of the central nervous system. It is born of a suspicion that, transient as may be the influence of the drug to all seeming, some effect may be produced which will only show itself in years to come. Temperamental bias, too, must not be neglected.

First, then, as to the drugs: practically they have now been narrowed down to three. Of these tropacocaine is the least poisonous and least apt to produce undesirable after-effects. It is not used with suprarenal preparations, as a rule; in fact, it may be stated in a general way that the original plan of combining adrenalin is much less in favour nowadays. Tropacocaine is easily soluble in water, and the solution will stand boiling; it is neutral, and has no irritating effect upon the tissues. Novocain is a very similar drug, but its analgesic effects are fleeting unless combined with adrenal extract, an association which detracts from its usefulness, in so far as the latter drug is liable to deterioration with keeping[1] and loss of potency on boiling. Stovaine, in other respects the most useful, gives an acid solution, is irritating, and is easily rendered inert by alkalis, a fact which accounts for some of the recorded failures, since soda is so commonly used in sterilizers and for cleaning purposes. It seems that stovaine will not stand sterilization, but this drawback is minimized by the fact that it is definitely antiseptic.

As to the direct toxic working of these drugs, death statistics are of no practical value; it is mainly a question of dosage. Deaths have been attributed to all of them, even tropacocaine.[2] Chaput,[3] under protest from Hartmann and Beurnier, declared that he knew of no death amongst 7,000 cases; Köhler[4] says he has collected 12 deaths in 7,780 cases, and Hahn[5] 8 in 708. It is possible, however, that the majority of these deaths were not due to the drug, and that many were cases in which operation was undertaken under spinal analgesia because the patient was already too desperately ill to be submitted to inhalation narcosis. As to complications and evil after-effects, it is the universal experience that with increasing knowledge of the technique and of the proper dosage, such regrettable results and blemishes tend to disappear from the records. Nevertheless a good many reports of ocular palsies, most of them transient[6] but occasionally persistent,[7] and a few of paraplegia[7] are still published. Guinard,[8] who noted the subsequent development of cerebral softening, received the support of Nélaton, but *post hoc* is very different from *propter hoc*.

Borszeky[9] states that of 61 patients seen five months after spinal analgesia, 6 had paraesthesiae, neuralgia, headache, or vertigo, but his conclusions are open to similar criticism. The alarm which was raised over the noxious effects of stovaine on the kidneys has been allayed by the discovery that they are transient.[10] Headache, which has not been altogether eliminated, has been found to be due to many conditions,[11] and to be preventable in part, treatable in part, and relatively negligible in the rest. In hospitals where the method is much used it is common to hear the phrase "a stovaine temperature"; something has been written on the subject,[12] but the phenomenon has certainly little importance.

Experimental work is receiving some attention,[13] and has already resulted in improvement of points in technique, as well as in the control of complications. The attention directed by Mr. Barker to the importance of isotonicity and viscosity received somewhat tardy recognition, but it led to the employment of tropacocaine, in mixture with gum arabic[14] for the safe induction of high analgesia. More recently Jonnesco has attempted to solve the problem of using stovaine for general analgesia by the addition of strychnine to the solution injected. By this means he aims at preventing the fall in pulse-rate and blood pressure, and the respiratory paralysis which Chaput[15] had found it impossible to avoid in all cases, by the previous subcutaneous injection of scopolamine and caffeine. Jonnesco does not believe that the drug acts directly on the bulbar centres—an opinion which would seem to have the support of Head,[16] who speaks of the drug as acting on motor and sensory fibres, either before or just after they have entered the cord.

It is time, however, to examine the claims of a method which has established its feasibility and

[1] Mohrmann, *Therap. Monats.*, 1907. Nos. 7 and 8.

[2] Bier, *Deutsch. Zeit. f. Chir.*, 95, 373.
[3] BRITISH MEDICAL JOURNAL, May 30th, 1908, p. 1330.
[4] *Zeit. f. Chir.*, 1909, Beilage, p. 16.
[5] Hahn, *Centralbl. f. d. Grenzgeb.*, 8 and 9, 1901.
[6] Wolff, *Berl. klin. Woch.*, No. 41, 1907. Legueu, BRITISH MEDICAL JOURNAL, April 25th, 1908, p. 1018. Oelsner, *Deutsch. Zeit. f. Chir.*, 90-557. Tomaschewski, *Zent. f. Chir.*, 1908, p. 208. Münchmeyer, *Beiträge f. klin. Chir*, Bd 59, S 447.
[7] Zwar, *Zent f. Chir.*, 1909, p. 504.
[8] BRITISH MEDICAL JOURNAL, March 21st, 1908, p. 715.
[9] *Beiträge z. klin. Chir.*, Bd. 58, S. 651.
[10] Oelsner, loc. cit.
[11] Offergeld, *Zent. f. Gynäk.*, 1907, No. 10; Hosemann, *Zent. f. Chir.*, Beilage, p. 13, 1909.
[12] Zachrisson, *Keen's Surgery*, vol. v, p. 1032.
[13] Rehn, *Zent. f. Chir.*, Beilage, p. 11, 1909; Oelsner u. Kronar, *Deutsch. Zeit. f. Chir.*, Bd. 95, S. 386; Hesse, *Deutsch. med. Woch.*, 1907, No. 37.
[14] Ehrhardt, *Münch. med. Woch.*, 1908, No. 19; *Zeit. f. Chir.*, Beilage, 1909, p. 12.
[15] *Presse méd.*, 1907, No. 94.
[16] BRITISH MEDICAL JOURNAL, February 1st, 1908, p. 249; see also Rehn, loc. cit.

comparative safety. Is there any reason for preferring spinal analgesia to inhalation anaesthesia as a matter of routine? Theoretically it would seem better to cut off painful or excessive stimuli from the higher nerve centres altogether, rather than merely to abolish consciousness of the temporary havoc they may work there. Against that is to be put the serious consideration that the persistence of consciousness lays the patient open to psychological impressions of the rudest type. Notwithstanding all precautions, it is impossible to shut off from him knowledge of what is going on, and, although all who employ the method have triumphant instances to adduce of complete equanimity on the part of their subjects, there is an enormous class amongst city populations for whom complete oblivion of all the immediate circumstances of operations is best.

When it comes to the consideration of special advantages offered by spinal analgesia it is a very different matter. To begin with, there is a class of patient for whom the dread of losing consciousness is itself a bar to all but life-saving operations. Then there is the advantage that, if put to it, the anaesthesia can be induced by the operator even if he be single-handed. The great majority of the contraindications for inhalation anaesthesia do not constitute a similar bar to the spinal method. This, however, is equally true of local analgesia, and the infiltration method must not be overlooked in laying down the legitimate field of spinal injection. Wherever complete muscular relaxation is a necessity stovaine is pre-eminently useful—for example, in setting a fracture in an individual who has recently had food. Almost the only contra-indication[17] upon which a majority of opinion agrees is a septic process in the region adjacent to that traversed by the needle or a pyaemic state.

Since the demonstration of the apparent safety of high or general analgesia[18] the field of usefulness would seem to have considerably extended, but the great argument of muscular relaxation has not the same force, since if tropacocaine be used motility is almost unaffected, and the combination of strychnine with stovaine diminishes the duration, if not the degree, of motor inhibition.

It might be laid down that wherever inhalation anaesthesia is inadvisable or undesirable, and if local analgesia does not fulfil the requirements amply, there, at least, the subarachnoid route finds a legitimate field. In weighing the indications for and against chloroform or ether, moreover, one of the most important things to bear in mind is the experience of the administrator. There is, perhaps, no reason for refusing to accede to the request of a patient for the spinal method where it is simply a question of choice. There are plenty of anaesthetists who have extensive experience of the technique, so that it is as unnecessary as it is undesirable for the surgeon to charge himself with the added responsibility. It is hardly necessary to repeat that asepsis must be a fixed habit of the administrator, whoever he be.

It is perhaps surprising to find German army surgeons minimizing the probable utility of stovaine in the field.[19] Their objections seem to be based upon an alleged impossibility of obtaining aseptic conditions in the circumstances. As, however, the occasions upon which analgesia is imperative in the field itself are few, and as the combination of asepsis with antiseptics that is possible has proved its efficiency over and over again, the objection seems frivolous.

From the point of view of the surgeon's manipulations, spinal analgesia may be said to fulfil all requisites. From the average patient's point of view, and therefore from that of every surgeon who is alive to the widest aspects of his patients' welfare, it can only be said to be the method of choice in certain specific circumstances, of which perhaps the most weighty is a valid objection to inhalation. At the same time, many objections are now considered valid which would not have held a few years ago, because on the simple score of safety it is no longer possible to rule the lumbar route out of court. Every case now demands an appreciation of the possibilities of the newer resources, and calls for even more careful discrimination and selection.

[17] Zaradnicky, *Langenbeck's Arch.*, 89, Heft 2. Oehler, *Beiträge zur klin. Chir.*, Bd. 35, S. 273. Birnbaum, *Münch. med. Woch.*, 1908, No. 9

[18] Gilmer, *Zent. f. Chir.*, 1908, Beilage, p. 21. Schnurpfiel, *Zeit. f. Chir.* 1908, p. 813. Jonnesco, BRITISH MEDICAL JOURNAL, 1909, ii, p. 1396.

[19] Flath, *Deutsch. militär. Zeit.*, 1909, No. 8.

BACTERIAL ESCAPE IN STRANGULATION OF THE GUT.

DR. IKONNIKOFF has recently published the results of an investigation of the passage of bacteria through the intestinal wall in experimental strangulation of the gut.[1] His observations were made upon twenty-three rabbits. Under strictly aseptic conditions, he strangulated by means of a rubber band a loop of intestine from 2 to 3 cm. in length. Four experiments were performed on the large intestine, and resulted in death in from four to five days. The autopsies were performed "as soon as possible," but the precise interval after death is not stated. In every instance considerable dilatation of the intestine above the lesion was found, and there was a turbid, haemorrhagic, peritoneal exudate. The strangulated gut, which was also dilated, was of a slate colour, showed numerous haemorrhagic foci, and was attached to the neighbouring parts by fibrino-purulent membranes. In no instance was perforation observed. The histological lesions in the intestinal wall were nearly always the same. Except in one instance in which the muscular layers were almost intact, all the layers of the strangulated gut were undergoing necrosis and showed large tracts of haemorrhagic extravasation. The vessels of the subperitoneal layer were greatly distended. The epithelial and glandular cells had mostly disappeared, and both the mucous and the submucous layers were invaded by the haemorrhagic process and on the road to disintegration. Bacteria were found in all the layers of the intestinal wall, but were most abundant in the mucosa and submucosa. There were large Gram-positive bacilli, and smaller spore-bearing organisms, which decolorized more readily and were probably *Bacillus putrificus* or *paraputrificus*. Gram-negative bacilli of the "*coli*" type were found, and also long Gram-negative bacilli with spherical spores at their extremities. No cocci were present. Cultures of the peritoneal exudate yielded *Bacillus perfringens*, *Bacterium coli*, and *Bacillus putrificus* or *paraputrificus*. The only organism obtained from the heart was *B. coli*. Histological examination of the intestine in the neighbourhood of the strangulation did not reveal any microbes, although there was partial desquamation of the epithelium.

In other experiments the small intestine was strangulated, and it was observed that the higher the lesion the sooner the animal died. Strangulation of the lowest part of the small intestine produced death

[1] *Annales de l'Institut Pasteur*, November, 1909.

in from two to two and a half days. The lesions, both to the naked eye and under the microscope, were the same as those found in the large intestine. The same bacteria were isolated as those mentioned above; there were in addition streptococci in one case and in another a Gram-positive diplococcus, forming short chains. No cocci were found in the histological sections, though bacilli, particularly Gram-positive types, were very abundant. In the course of some of the experiments the peritoneal exudate was examined at intervals before death supervened. No bacterial growth could be obtained earlier than twenty-three hours after the operation, and later samples sometimes gave a negative result, although microscopic examination of the exudate revealed isolated Gram-positive bacilli.

In ten experiments the animals were killed at early intervals after operation. Two hours after the commencement of strangulation the hyperaemia of the intestine was visible to the naked eye, and its walls were thickened by oedema and congestion. The microscope showed that the epithelium was intact, whilst the cells of the submucous layer were dislocated by oedema. At this period no bacteria were found either in the intestinal wall or on the peritoneal surface; the peritoneal exudate was also sterile, although containing red corpuscles and leucocytes. Strangulation for six hours produced a more intense venous stasis, with extravasation of red corpuscles in the villi. Where the villi were not in a haemorrhagic condition there was found in their centre a large collection of lymph, which almost came into contact with the epithelial lining. At the same time there was oedema of the submucosa and hyperaemia of the muscular layers. The epithelial surface was almost intact, but a few desquamated cells were found. The surface of the villi was covered with a large number of bacilli, the majority being Gram-positive. A few isolated bacilli were found within the villi, but none either in the submucosa or on the peritoneal surface. The peritoneal exudate showed a reddish tinge, but no bacilli could be found in it, though both red corpuscles and leucocytes were numerous.

After noting minor details found in intermediate stages, the author calls special attention to the condition found sixteen hours after the commencement of strangulation. Then, for the first time, he found a large number of bacteria in the intestinal wall and on its peritoneal surface; but cultures of the peritoneal fluid, the heart's blood, and the spleen yielded negative results. Microscopic examination showed an intensely haemorrhagic condition of all the layers of the intestinal wall and a large number of leucocytes both in the submucous layer and in the interfascicular spaces of the subperitoneal layer, where the lymphatic vessels were greatly dilated. The false membranes covering the peritoneum were infiltrated with a considerable number of polynuclear cells. The epithelial lining was still intact in many places, though there were found, particularly at the summits of the villi, cells of ill-defined outline containing much mucus and Gram-staining bacilli. In some places, however, there was epithelial desquamation, associated with large numbers of bacteria in the mucosa.

Passing from the inner aspect of the gut to the outer the number of bacteria progressively diminished, and none were found in the muscular layers; but on arriving at the false membrane on the peritoneal aspect they again became very numerous. Between the eighteenth and the twenty-sixth hours the necrotic foci increased in number and expanded the bacterial invasion also became more dense. In twenty-eight hours advanced necrosis of the mucosa and submucosa was found, these layers being crowded with bacteria. The bacteria formed a band of infiltration parallel to the muscular layers, which also contained a certain number of microbes. The muscle bundles were dislocated by haemorrhagic foci. Much the same condition was found at the end of thirty-four hours, but at this period necrotic change was so far advanced as to make it difficult to distinguish the different layers of the intestinal wall.

THE HOUSING AND TOWN PLANNING ACT.

IN accordance with its custom in such cases, the Local Government Board has issued a memorandum dealing with the Housing, Town Planning, etc., Act, 1909, to the authorities whose duty it is to administer the Act. A separate memorandum has been addressed to the county councils other than the London County Council, the metropolitan borough councils, councils of boroughs and urban districts, and councils of rural districts.

In the circular letter which accompanies the memorandum to the county councils, the Board points out that Part I and Part III of the Act chiefly affect the powers and duties of these councils. Section 10 of Part I enables the Board, after complaint by, amongst others, the county council, to declare, after holding a public local inquiry, that a local authority has failed to exercise certain of its powers under the Act, and to make an Order directing the authority in question to do such things as may be mentioned in the Order for the purpose of remedying the default. In case the Order is not complied with the Board may, with the consent of the county council, direct that body to carry out the terms of the Order. The previously existing powers of county councils, derived from Section 6 of the Housing of the Working Classes Act, 1900, have been extended, so that it is now possible for a county council to transfer to itself the powers of a rural district council under Part III of the Act of 1890, either as regards a particular parish or with respect to the whole of the rural district. Power is given to a county council under Section 72 to promote the formation or extension of co-operative building societies which have for their object, or one of their objects, the erection or improvement of working-class dwellings. For this purpose advances, not exceeding two-thirds of its value, may be made upon property by the county council. Other portions of the Act with which county councils are concerned are the obligation to appoint a medical officer of health and to establish a public health and housing committee.

The first portion of the circular letter addressed by the Board to town councils, urban and rural district councils, is almost identical with that addressed to the metropolitan borough councils. In one paragraph in the latter circular there is an omission which should be gratifying to the members of the metropolitan councils. It reads: "Powers are given for the enforcement of the execution of the Housing Acts. The Board trust that it may not often be necessary to resort to these powers, but they must point out that they are very complete as regards all matters concerning the housing of the working classes, and in particular extend to enable the Board to enforce the inspection required by Section 17 of the new Act—*a*

matter in which certain local authorities have in the past been very lax." The words in italics are not contained in the circular to the metropolitan councils.

In the whole country the facilities for the acquisition of land for the purposes of the Housing Acts have been increased, and loans may now be made by the Public Works Loan Commissioners for periods up to 80 years. The powers of a Court of Summary Jurisdiction have now ceased with respect to the closing and demolition of dwellings unfit for human habitation, and the difficulties which have existed in some districts, especially in London, will no longer be present, for the sanitary authority can itself issue a closing order. In London, as elsewhere, houses of a rental double that hitherto fixed are in future to be held as let under the implied condition that they are in a state reasonably fit for habitation, not only at the time of first occupation, but during the whole time they are occupied.

In the circular letter to the provincial councils the Board draws attention to an important section of the Act (44), which enables them to require a local authority to revoke existing by-laws which in the opinion of the Board unreasonably impede the erection of working-class dwellings, or to make new by-laws. Borough and urban councils are reminded that the object of the Town Planning Part of the Act is "to ensure by means of schemes which may be prepared either by local authorities or landowners, that in future land in the vicinity of towns shall be developed in such a way as to secure proper sanitary conditions, amenity and convenience in connexion with the laying out of the land itself and of any neighbouring land." While a large portion of the Act is in the main concerned with the amendment or development of previously existing enactments on lines which have been suggested by experience or by expediency, that part which has reference to town planning is more or less of an experimental nature so far as this country is concerned. It is true that we have had the advantage of studying the experience of other countries where similar difficulties connected with the extension of towns have been met by legislation, but for various reasons the conditions sought to be remedied are not quite comparable, so that it will be necessary for us in this, as in so many other matters, to work out our own salvation.

ANOTHER "HONOURABLE" GENTLEMAN.

DOES the courtesy title of "Honourable" tend to engender in those who bear it the belief that it absolves them from observance of the code of gentlemanlike conduct accepted by ordinary men? It is a curious question, which is suggested by some notorious cases, familiar to our readers, in which we have had to expose the controversial methods of certain titularly honourable men. Another example has just been added which seems to strengthen the impression that a courtesy title is apt to be a stamp of discourtesy. In a campaign which for misrepresentation, meanness, and the vilest appeals to ignorance and passion is remarkable even in the history of general elections, we are inclined to think that the Hon. Claude Hay, in his attack on Dr. Christopher Addison, has reached the lowest depth. We should not think it worth notice were it not that it is calculated to inflame prejudice against the medical profession in regard to a matter which, though of the very highest importance to the public welfare, has absolutely no relation to politics. Dr. Addison is a distinguished anatomist who has made contributions of great value to scientific literature, and who has held several offices which give a man the position of a leader in his profession. He is standing as the Liberal and Radical candidate for Hoxton. His opponent is the Hon. Claude Hay, and there has been the usual exchange of amenities between the candidates. But Mr. Hay has issued a leaflet and poster in which an appeal is made to the lowest passions of the mob. The poster informs the hooligans who alone are likely to be influenced by it that "Dr. Addison asks for support on the ground that he is *Used* to *Cutting up Bodies*. Will you let him cut up the *Empire?* Don't Vote for Addison who cuts up the stomach, but Vote for Hay who will fill it." If Mr. Hay had promised to fill the stomachs of his supporters with thistles, the appeal would have a special appropriateness that might perhaps have been some excuse for its vulgarity. In the leaflet Dr. Addison is described as not "Carpet Bagger," but "Body Cutter." The cutting up of dead bodies is referred to again and again, obviously with the object of stirring up the horror which is still associated with dissection among the ignorant. Mr. Hay calls this "good-natured banter." If this is his notion of banter, we can only wonder what is his idea of abuse. Evidently, like his famous countryman, he "jocks wi' deeficulty," but his plentiful lack of wit can scarcely be held to excuse his want of good manners. There is a graver side to the matter. The study of anatomy, which forms the foundation of medicine as well as surgery, has been hindered by popular prejudice until a time within the memory of persons still living. In ancient Greece, under the Roman Empire, and throughout the Middle Ages, dissection of the human subject was made impossible by public feeling. As late as the eighteenth and the early part of the nineteenth century dissecting rooms were destroyed by mobs. At Lyons in 1768, the Collegium Medicorum was razed to the ground by a frenzied crowd excited by the casual remark of a woman that it was a place where children were cut up alive. In Aberdeen, in 1831, the anatomy theatre was burnt by an infuriated crowd who would have killed the lecturer, Dr. Andrew Moir, had he not contrived to escape. Even medical students went in danger. Dissection is still regarded with repulsion even by people who should know better. We therefore hold the Hon. Claude Hay guilty—though he may be too ignorant of the subject to have realized the full significance of his words—not only of vulgar abuse, but of a direct incitement to breach of the peace.

ANTIVACCINATORS AND THE GENERAL ELECTION.

THE Antivaccination League appears to be concentrating its energies during the present General Election on the re-election of Mr. Arnold Lupton as member for the Sleaford Division. At the last General Election Mr. Lupton defeated the Right Hon. Henry Chaplin by a majority of 293, and boasted that this result was chiefly brought about by his antivaccination attitude. The officials of the league have evidently some misgivings as to the lasting qualities of the impression, for Mr. Bonner, the lecturer of the league, announces in the January issue of the *Vaccination Inquirer* that in the course of six weeks he had visited twenty-eight villages on the Sleaford side of the constituency. He then moved to the Lincoln side on December 13th, where the "educational campaign" is still proceeding. The *Yorkshire Post* of January 10th, commenting on the prospects of various candidates for Parliament, says of Mr. Lupton: "It was believed a month ago he had a fairly good chance, but since then there has been a decided change in the constituency. His eccentric conduct in the House of Commons during the last four years has certainly not

tended to increase his popularity among the moderate members of his own party, while his continued reiteration on every available opportunity of the anti-vaccination fad has disgusted many of his former supporters." The Antivaccination League has also issued an election manifesto in the form of an appeal to the people to vote for health and liberty. It states that the antivaccinists are not satisfied with the concessions recently granted. The three following questions were submitted by the league in December to be put to parliamentary candidates: "Are you in favour of—(1) The repeal of the Compulsory Clauses of the Vaccination Acts; (2) the abolition of compulsory vaccination in all departments of the public service, whether national or local; (3) the legal prohibition of such compulsion by private employers?" For the sake of peace and harmony within the camp the last question has had to be withdrawn. It has been a source of still another of those discussions among antivaccinators to which we have frequently had occasion to make reference. The *Vaccination Inquirer* (January), in announcing the decision to withdraw the question, explains: "Some exception has been taken to the last question on the ground that it violates the principle of individual liberty in defence of which we are fighting." This is not the only principle which is violated by the antivaccination propagandists.

MEDICAL MEN AND THE HOUSE OF COMMONS.

PROBABLY there is no other profession or occupation which is quite so jealous a mistress as medicine, none which makes greater calls on an adherent's time and energies, and few wherein service is more gladly rendered by those from whom it is due. Most medical men think, dream, and live their profession, and wherever two of them are gathered together there is talk of symptoms, diagnosis, and treatment. Indeed, an average medical man may safely be regarded, apart from a possible minor hobby of an intellectual or physical variety, as least prone of all students and workers to occupy his thoughts, time, and energies with matters which do not immediately concern his day's work. This is the common view, and if at any medical gathering the question were raised as to whether medical men as a body took a keen interest in politics, the answer given would probably be, No. A more emphatic negative still would greet the question, Do medical men show a more marked tendency than other citizens to take an active personal part in political enterprise? Nevertheless, if the point be examined in the light of the facts revealed at the last two General Elections, the answer suggested would seem to be open to criticism. If the ratio between possible and actual competitors for seats in the House of Commons be taken as a gauge of the extent of the ambitions for parliamentary honours prevailing among citizens at large, those of the medical profession must exceed that of laymen as a whole. In the House of Commons there are 670 seats, and at a high computation the total number of candidates is just twice that number, or 1,340. On the other hand, the total number of possible candidates is that of the actual electors—namely, 7,615,438—and this sum divided by 1,340 gives a ratio of 1 to 5,683. The same kind of calculation applied to possible and actual medical candidates shows that in England and Wales (assuming that all medical men are entitled to a vote, and, therefore, to attempt to obtain seats in the House), the ratio of possible to actual medical candidates, is as 1 to 1,573, whereas the general citizen-ratio is only 1 to 6,218. In Scotland the same calculation gives a ratio of 1 actual to every 961 possible medical candidates, against a general ratio of 1 to 5,356. Finally comes Ireland, where the medical ratio is as high as 1 in every 664, against a general ratio of 1 to 3,337. So far as these figures go, therefore, it would be safe to assume that medical men in England, Ireland, and Scotland, were respectively four, five, and nearly six times more anxious for seats in Parliament than are the general mass of citizens. Probably members of the legal profession entertain this ambition in still larger ratio, but we have not had an opportunity of determining the point. Possibly the political colour of the majority of the medical candidates may give a clue to their number. Among all educated classes none have the need for progress and reform, more especially in social regards, more constantly and emphatically brought under their notice than medical men in the course of their everyday work and it is natural, therefore, that a comparatively large number of those who hope that social reform may be facilitated by legislation should be inspired to seek a seat in Parliament. The profession at large has much to gain by the counsels of Parliament being leavened by adequate medical knowledge, and a still greater gainer would be the general body politic. This is not only because a medical member must inevitably be a person of wide education and knowledge, but more particularly because modern legislators are constantly engaged in considering measures which in one way or another must materially affect the health and physical well-being of the nation. It is not necessary that he should be a great speaker, for the influence of the private member in open debate is, and must be, so long as our present party system prevails, comparatively small. It is in committee work and by personal conversations and exchanges of views that the medical member can do most to influence the aims of his own party and modify the opposition of the other side. Such a man may prove a tower of strength and a fountain of wisdom to both parties.

THE VARIABLE DOSAGE OF SECRET REMEDIES.

AMONG the proprietary medicines the composition of which, as revealed by analysis, has been published in these columns from time to time, are various powders, cachets, pills, and tablets, and in these cases the individual weights of different doses have usually been recorded; great variation in the quantity to be taken in one dose has sometimes been shown. Thus in the case of powders sold for the cure of drunkenness powders having an average weight of 1½ grains varied individually from ⅓ grain to 3 grains, and in another inebriety "cure," variations from 2.9 to 6 grains were found among ten powders of average weight 4.2 grains. If would appear from such cases that the quantity put into each was merely "a little," and could not have been either weighed or measured. One of these powders contained acetanilide and bromide, and such variations might be far from negligible in their consequences. In the case of headache powders, most of which consisted chiefly of acetanilide, some of the variations were very serious, the heaviest and lightest powders in a packet of ten differing in one preparation by as much as 6 grains; the average weight of these was 10½ grains, and acetanilide formed 50 per cent. of the constituents. Some ingenuity is shown by one of the makers of headache powders whose article was among those examined, in an advertisement which is appearing rather prominently at present in some of the pharmaceutical papers. In this advertisement attention is drawn to the "fact" that our analyses showed smaller variations in the weights of the powders in question than in any other; since, however, the lightest and heaviest powders in a packet of ten of average weight 6 grains, differed by 0.7 grain

(practically 12 per cent.) there seems to be no very good grounds for this self-congratulation on accuracy. And the "fact" itself belongs to the class described by Josh Billings as "facts which are not so," as in one of the powders analysed—the only other one which consisted of acetanilide only—the extreme variation found was only 0.2 grain; this appears to be referred to in the advertisement as a variation of 2.0 grains. The advertisement states "it is not possible in the ordinary course of dispensing business to weigh powders more accurately than 'Daisy' powders are dispensed," and, as to this, a pharmaceutical correspondent remarks that the statement "is an insult to the pharmacists to whom it is addressed. A dispenser who could not weigh to within 0.7 grain would not remain long in any good pharmacy." It is not unimportant to recollect, moreover, that it was shown in evidence at an inquest some years ago that extremely wide variations existed in the weights of specimens taken from one and the same packet of the very powders in question, and whatever greater accuracy may exist in the weighing of these powders to-day would seem therefore only to have been secured after attention had been drawn in this forcible way to the dangerous manner in which variable quantities of acetanilide were being distributed as doses.

GLARE: ITS CAUSES AND EFFECTS.

A DISCUSSION on the subject of glare, from the diverse points of view of physiology and engineering, took place on January 11th at a meeting of the Illuminating Engineering Society, which though only established a short time has a membership of 187. Professor Silvanus P. Thompson occupied the chair. The discussion was opened by Mr. J. Herbert Parsons, F.R.C.S., who laid stress upon the fact that the basis of the problem was physiological. The eye showed marvellous elasticity in responding to extremes of intensity of illumination, and in this faculty of retinal adaptation might be found the chief physiological element. Other conditions, of course, also came into play. Light reflected upwards into the eyes from the surface of the sea or a strongly-lighted ground or the glazed pages of a book was particularly prone to initiate the symptoms. When illumination came from such sources it was detrimental to clear vision because it interfered with spatial induction and thereby diminished the sharpness of the definition. The iris provided an automatic protective mechanism against the influence of bright light, but the range of this apparatus was not sufficiently great to abolish the evil results of intensely high illumination as had been proved by cases of serious permanent injury to vision following the observation of solar eclipses, or exposure to the bright flash of a short circuit. Mr. Parsons conjectured that in such circumstances profound chemical changes took place in the visual purple, and even in the structural elements, leading to destruction or loss of function. He asked whether the cause of this action was the mere intensity of the light or some particular form of energy in the incident rays. The incident light was always composite in character, and included ultra-violet rays, which, inasmuch as they were known to be specially potent in effecting chemical change, would naturally first be suspected. But, chiefly on the ground that the eye was protected against them by the crystalline lens, in which for the most part they were absorbed, he held that the ultra-violet rays were quite a subsidiary element in this connexion. As to the question whether colour or luminosity was the more potent in causing glare, he held colour was, if anything, beneficial in reducing the tendency to this condition, and that, from the physical point of view, glare was a function of luminosity rather than of colour. On the physiological side, he held that temporal induction (retinal adaptation) and spatial induction were the potent factors. There was also the psychological side to be considered, and he suggested that the pain of intense glare was largely due to prolonged efforts—such as the puckering of the brows—to minimize the discomfort, as well as to the mere summation of submaximal stimuli. The discussion, which will be continued at the next meeting, was noteworthy for several communications from foreign members on the question as to what exactly constitutes a "glaring" system of illumination. Professor Stockhausen, of Dresden, held that glare depended upon two factors: (1) Strain upon the faculty of retinal adaptation, so that the physiological limit is reached or over-stepped; and (2) the fluorescence of the eye-lens under ultra-violet rays. Some lantern-slides were shown demonstrating the different extent of the ultra-violet region after attempts to reduce it by means of different kinds of glass. The general opinion of the foreign experts appeared to be that brilliancy was the main factor in inducing glare, and that colour, although under certain conditions it might cause eye trouble, was secondary. Dr. F. W. Edridge-Green pointed out that the kind and degree of illumination which constituted glare for one person might not constitute glare for another. The mercury light, for example, was intensely disagreeable to him, and yet he knew many who worked every day comfortably with it. When he had the opportunity of examining the men who could bear mercury light with equanimity, he invariably found a considerable shortening of the violet end of the spectrum, while in his own case the violet end was considerably longer than in most people. Dr. Edridge-Green held that the visual purple was the sole visual substance in the eye, as he had never been able to find evidence of any other.

THE BOARDING-OUT OF PAUPER CHILDREN.

THE boarding-out of pauper children in homes not situated in the union to which they belong was first sanctioned in 1870, when the Poor Law Board made an order regulating the character of the homes in which the children were placed, and making rules for the visitation of the children and the homes by suitable persons. Since 1885 women inspectors of the Local Government Board have been engaged in visiting these children in their homes, and in inquiring into the manner in which the local visitors carry on their work. The boarding-out of pauper children in homes within the union to which they are chargeable has been carried out for a very considerable number of years where out-relief has been given to a destitute child. It was not, however, until 1877 that the system was in any way regulated. In that year the Local Government Board made an order under which such children were placed under the supervision of the relieving officer, whose duty it was to visit them once every six weeks. The district medical officer was also required to visit and report upon the children and the homes once each quarter. In 1889 the Board made an order which authorized committees of ladies and gentlemen to undertake the supervision of these children in place of the relieving officer. The Board has now taken a further step, and by an order dated December 31st, 1909, the duties of relieving officers with respect to boarded-out children will entirely cease on April 1st next. The Order requires that the duties at present performed in some districts by relieving officers shall be carried out either by a committee of the board of guardians or by a committee of persons

who are not members of the board but who are willing to undertake the duties specified in the Order. The board of guardians may, and when required by the Local Government Board must, appoint a woman to act as a visitor. The duties of the visitor include a monthly visit to the child and its home and a report to the committee upon the conditions found, and payment, either weekly or otherwise, to the foster parent of the agreed sum for the child's maintenance. The children boarded out within a union are not subjected to inspection by inspectors of the Local Government Board in the same manner as are those who are boarded out beyond the union—a circumstance which was referred to by the Royal Commission on the Poor Laws, which recommended that all boarded-out children wherever living should be officially inspected. Although no provision is made for this in the new Order, it is stated in the letter which accompanies the Order that it is the Board's intention that such inspection shall take place, and that it is making arrangements for that purpose.

THE DEATHBED OF GEORGE THE FOURTH.

IN the *Memoirs* of the Duchesse de Dino, the niece of Talleyrand, there is the following note under the date: London, January 27th, 1834: "Sir Henry Halford has just been telling me that the late King George IV, whose senior physician he was, asked him two days before his death to say on his word of honour whether the case was desperate. Sir Henry, with a significantly grave face, answered that His Majesty's condition was very serious; whereupon the King thanked him with a movement of his hand, desired the Sacrament, and communicated very devoutly, inviting Sir Henry to communicate along with him. Lady Conyngham was in the adjoining room. So no interest was absent from the deathbed of the Royal charlatan while he partook of the Sacrament for the last time." The King died early in the morning of Saturday, June 26th, 1830, more suddenly than was expected. Feeling a sudden thrill of pain, the King exclaimed, "This is death! Send directly for Halford," and he expired in the act of making a friendly inclination of the head to the physician on his entering the apartment. Munk, in his *Life of Sir Henry Halford*, says the physicians who had been in attendance on the King were sharply criticized in some of the newspapers for the bulletins which they had issued, which, it was held, were calculated, even if they were not intended, to mislead. Sir Henry Halford took an opportunity of defending his colleagues and himself in a paper entitled "On the Influence of the Body on the Mind," which he read before the Royal College of Physicians in February, 1831. Speaking of the conduct which should be observed by a physician in regard to making a patient acquainted with his opinion as to the probable issue of a malady presenting mortal symptoms, he said he thought his first duty was to prolong life by all practicable means. Unless, therefore, he found the patient unwilling to do what was necessary in aid of the medical treatment, he refrained from stepping out of the bounds of his province in order to offer any advice which was not necessary to promote the cure. At the same time he told the friends his view of the situation. He thought it better that the friends should do what they considered right in the interest of the patient; "they do so without destroying his hopes, for the patient will still believe he has an appeal to his physician beyond their fears; whereas, if the physician lay open his danger to him, however delicately he may do this, he runs a risk of appearing to pronounce a sentence of condemnation of death, against which there is no appeal, *no hope*." But if there is no one about the patient of sufficient influence to undertake the painful duty, the physician should do so, and Halford says he has in such circumstances done that which he would have done by himself. The difficulty is greater in the case of patients whose safety is an object of anxiety to the nation. In such circumstances the physician has a duty to perform not only to the sick personage and his family, but also to the public, who, in their solicitude for his recovery, sometimes desire disclosures incompatible therewith. "Bulletins respecting the health of a sovereign differ widely from the announcements which a physician is called upon to make in humble life, and which he entrusts to the prudence of surrounding friends. These public documents may become known to the royal sufferer himself. Is the physician, then, whilst endeavouring to relieve the anxiety or satisfy the curiosity of the nation, to endanger the safety of the patient—or, at least, his comfort? Surely not." Therefore bulletins must be carefully drawn up containing no word likely to mislead, but, on the other hand, stating nothing that would deprive the patient of hope. Halford held, however, that the family and the Government had a right to know the truth; therefore, he says, he had, some months before the King's death, informed the Royal Family and the Prime Minister that His Majesty's disease was seated in his heart, and that an effusion of water into the chest was soon to be expected. It was not, however, till the latter days of May that he thought it advisable to inform the King himself of his desperate condition. "This communication was not necessary to suggest to the King the propriety of religious offices, for His Majesty had used them daily. But it determined him, perhaps, to appoint an early day to receive the Sacrament. He did receive it with every appearance of the most fervent piety and devotion and acknowledged to me repeatedly afterwards that it had given him great consolation—true comfort." It will be noticed that Halford says nothing here of having communicated with the King, but we have no doubt he did so. He was so finished a courtier that he doubtless would have behaved like the Frenchman in Johnson's imitation of Juvenal's famous line—

> Bid him go to hell, to hell he goes,

had His Majesty so ordered. The account of the deathbed of the First Gentleman reads a little oddly when one recalls the records of his life; but let us hope that, like Falstaff, "'a made a good end."

COMPULSORY SERVICE AND NATIONAL HYGIENE.

STATISTICAL monographs are, it must be confessed, as a general rule somewhat dull reading, and it is pleasant to have the opportunity of recording an exception, for Dr. Otto von Schjerning's essay on the sanitary statistics of the German army in so far as they bear on general problems of the race[1] is agreeably written and contains much interesting information. No doubt the highly favourable judgement expressed as to the hygienic effect of compulsory military service is slightly coloured by *esprit de corps;* but the author is able to point to a continuous fall in the mortality of the army from all causes, and to the fact that the prevalence of all forms of disease, with the noteworthy exception of nervous and mental disorders, has diminished. He attributes the exception not to any greater prevalence of these diseases, but to greater stringency in medical inspection. Perhaps the most gratifying feature is

1 *Sanitätsstatistische Betrachtungen über Volk und Heer.* Von Otto von Schjerning. Bibliothek v. Coler u. Schjerning. Band xxvi. Berlin: A. Hirschwald. 1910. (Demy 8vo, pp. 120; 37 tables and 6 maps. M. 3.)

the decline of typhoid, the mortality from which has fallen from over 9 per 100,000 in 1873–4 to less than 0.8 in 1907–8, being now actually below the figure for the civil population between the ages of 20–25, which corresponds to the period of military service. The author publishes a remarkable diagram which appears to show that, while in the case of English males and females, German females, and French females, the mortality coefficients (*Sterbenswahrscheinlichkeiten*) increase continuously from age 11, the curve for French and also for German males is almost parallel with the abscissa between ages 20–26. Dr. von Schjerning attributes this to the favourable effects of compulsory military service; the interpretation of his result requires a far more searching statistical analysis than he has provided, but the point is worthy of careful attention on the part of medical statisticians. A most interesting section of the work is devoted to the influence of school life on fitness for military service, and the author's conclusions may be formulated as follows: (1) The highest percentage of suitable recruits is furnished by agricultural schools (*Landwirtschaftsschulen*), then come private schools, seminaries, commercial schools (*Oberrealschulen*), and last of all gymnasia; (2) the longer the number of years at school the lower the percentage fitness; but (3) there is a much closer relation between unfitness and the number of years which have intervened between leaving school and reporting for service. While it would be impossible to assert that Dr. Schjerning's statistical treatment of his material is adequate to support far-reaching conclusions, his speculations are undoubtedly of considerable interest.

COUSIN MARRIAGES.

MEMBERS of the profession are frequently consulted as to the desirability, from the hygienic standpoint, of marriages being contracted between first cousins, so that a note on the present state of opinion may be useful. Before the question can be answered it is evidently necessary to obtain some measure of the degree of resemblance of cousins, or, as the statistician would phrase it, the correlation between cousins with regard to heritable characters. The most recent work on this subject with which we are acquainted is a memoir by Miss Elderton and Professor Pearson, which was reviewed at the time of its publication.[1] These authors concluded that the resemblance between first cousins was at least as close as between children and their uncles or aunts. In their own words: "We should conclude accordingly from the present results that, for the purposes of eugenics, cousins must be classed as equally important with uncles and aunts, and that they may eventually turn out to be as important as grandparents."[2] If these conclusions be just, cousin marriages are on the same footing as a union within the prohibited degrees of affinity, which in this country include that of uncle or aunt with niece or nephew. While decisive importance cannot be assigned to the table of kindred and affinity, especially as some of the prohibitions do not refer to blood kinship, yet it is probable that the table may ultimately have been derived in part from the teaching of experience. We do, indeed, know that numerous pathological defects, such as deaf-mutism and albinism have been alleged to occur with undue frequency among the offspring of cousin marriages. It is none the less true that most of these allegations are not supported by adequate statistical reasoning and should be accepted with reserve. Perhaps the following statements may be regarded as in accordance with the best modern teaching. If the cousins have behind them an ancestry physically, morally, and mentally without blemish, then such a marriage is certainly unobjectionable and may even be regarded as advantageous. Since, however, none but an insignificant percentage of our race can bring forward genealogical evidence approximating at all closely to this ideal, cousin marriages must generally be regarded with some apprehension. The bad points as well as the good points of the stock will tend to be exaggerated in the offspring and a disturbance of balance may be introduced not making for the health or happiness of the coming generation. We do not refer to the alleged lowered fertility of cousin marriages, since this requires further investigation. It is, we think, quite clear that any dogmatic condemnation of cousin marriages is not warranted by by the present state of knowledge.

[1] BRITISH MEDICAL JOURNAL, 1908, vol. i, p. 407.

[2] *On the Measure of the Resemblance of First Cousins.* By Ethel M. Elderton and Karl Pearson. Eugenics Laboratory Memoirs IV, p. 20. London: Dulau, 1907.

HOSPITAL FINANCE.

A WILL, the contents of which were made public last week, had a codicil attached, revoking a bequest of £500 to St. Bartholomew's Hospital, on the ground that it was exceeding its income. It is a curious circumstance, which seems to indicate that the testator was not well acquainted with the financial system on which voluntary hospitals are for the most part nowadays conducted. In an article published in this JOURNAL a year or two ago it was shown that the vast majority of all London hospitals were habitually exceeding their income, and risking between them such an accumulated debt as must, in the course of time, tend to bring all voluntary hospital enterprise to a standstill, and force them to choose between closing their doors and accepting the position of rate-supported institutions. In a certain measure this anticipation has already been realized, since a certain number have come to terms with the London County Council in respect of elementary school children, for whom treatment of one kind and another is deemed desirable. Though it is true that the hospitals have so far managed to guard their autocracy, the action represents a step towards municipalization. Of the number of hospitals whose finances we reviewed—some sixty-nine—a proportion showed an apparent surplus on the year's working, but this was only when legacies received were brought into account. The habitual utilization of legacies for the purposes of ordinary maintenance is a practice which hitherto has generally been deemed unsound finance, and if this view be accepted, the number of hospitals truly entitled to be regarded as having completed their year's work with a balance on the right side was only fourteen. Moreover, the ratio of the deficit to ordinary expenditure was in many cases exceedingly high. In the case of two or three hospitals it was as great as 1 to 3, and in several it was as much as 1 to 5. At the London Hospital, for instance, with an annual expenditure of about £100,000, the income fell short of this amount by £20,000. At the Hospital for Sick Children, Great Ormond Street, again, ordinary expenditure amounted to £22,171, while ordinary income fell short of this sum by more than one-third, namely, £7,854. But it is superfluous to multiply instances, for the position of the majority of the hospitals was in principle essentially the same—namely, that they were spending sums materially exceeding their income, quite apart from any expenditure they were incurring from structural improvements and additions. Hence, though it may be, and doubtless is, regrettable that St. Bartholomew's

Hospital should now exceed its annual income, it is merely conforming to the general rule. Nor is it really remarkable that hospitals as a class should be indisposed to cut their coat according to the cloth in hand, for, provided that the active administrator is a person possessed of the requisite talent and energy, an institution which habitually exceeds its income is often much better off than its fellow of more ant-like habits. But its financial position is unsound, since its prosperity depends mainly on the continued co-operation of perhaps one or two particularly able and persuasive individuals on its board of management. So long, however, as its luck in this particular continues the policy seems usually to be successful, for even the business portion of the community appear to reck little of true soundness in financial administration where charitable institutions are concerned, and there is a general disposition to open purse-strings widely in favour of any institution which can show a really big deficit in proportion to its assured means. Furthermore, the King's Fund, as pointed out on a recent occasion, seems disposed to encourage a belief that it takes the same view of matters. Whether by doing so the fund is not inflicting a grave injury on voluntary hospital enterprise as a whole and imperilling its future is another question; but in any case, in view of the commonness of the practice there would seem to be a certain tinge of absurdity in any individual withdrawing a legacy from an institution on the ground stated.

GENERAL ELECTION.

QUESTIONS TO MEDICAL PARLIAMENTARY CANDIDATES.

A COPY of the memoranda and questions on Parliamentary subjects affecting the public health and the medical profession (see SUPPLEMENT, January 1st) was sent to each of the following medical candidates for Parliament, with a letter expressing the hope that the candidate would (*a*) answer the Questions, and (*b*) find himself able, if elected, to give a general support to the policy of the Association, except when it might conflict with party obligations.

Up to noon on Wednesday, January 12th, the following candidates had replied:

Dr. W. A. Chapple (L.), Stirlingshire.
Sir William J. Collins (L.), St. Pancras West.
Surgeon-General G. J. H. Evatt, C.B. (L.), Brighton.
Sir Robert Finlay, K.C. (U.), Edinburgh and St. Andrews Universities.
The Right Hon. Sir Walter Foster, Derbyshire S.E. or Ilkeston.
Dr. Alfred Hillier (U.), Hertfordshire North or Hitchin.
Dr. T. Laffan (H.R.), Mid-Tipperary.
Dr. H. S. Lunn (L.), Boston.
Dr. J. E. Molson (U.), Bethnal Green.
Dr. R. O. Moon (L.), Marylebone East.
Sir G. Scott Robertson, K.C.S.I. (L.), Central Bradford.
Dr. V. H. Rutherford (L.), Brentford.
Sir A. R. Simpson (L.), Edinburgh and St. Andrews Universities.

Note.—In consequence of information as to Dr. Court's candidature for North-East Derbyshire being received later than the issue of the official letter, he has not yet had time to reply.

Candidates giving favourable answers to (*a*) and (*b*):

Surgeon-General Evatt.
Sir Robert Finlay.
Right Hon. Sir Walter Foster.
Dr. Hillier.
Dr. Lunn.
Dr. Molson.
Dr. Moon.
Sir G. Scott Robertson.
Dr. V. H. Rutherford.
Sir A. R. Simpson.

Candidates giving favourable replies to (*a*) only:

Dr. W. A. Chapple.
Sir W. Collins.

Dr. Laffan replies that family bereavement has prevented his pursuing his candidature in real earnest.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

LONDON.

THE PUBLIC HEALTH IN 1908.

THE first part of Sir Shirley Murphy's report to the London County Council for the year 1908[1] was dealt with on pages 113–114 of the BRITISH MEDICAL JOURNAL. Part II is more immediately concerned with an account of public health administration within the area of the County Council. The powers and duties of the London County Council differ very considerably from those of other county councils, whose powers are mainly administrative, whereas in London executive powers are shared by the County Council and the metropolitan borough councils. In these circumstances it would add very much to the value of the annual report if the medical officer would indicate more definitely where the County Council is responsible for executive details and where the responsibility falls upon the borough councils.

Dairies, Cowsheds, and Milk Shops.

At the end of 1908 there were 225 cowsheds in London, the number in each borough ranging from 1 in Paddington, Kensington, and Holborn, to as many as 38 in Stepney. The total number of cows is not stated, but it may be assumed to be about 3,500, for at each one of the five periodical inspections made in 1908 by the County Council's veterinary inspectors that was the average number examined. As a result of these periodical inspections, 1,139 cows were discovered with disease or defect of the udder (16 with tuberculous disease of the udder, 158 with acute mastitis) and 139 were giving milk of poor quality. The county medical officer of health, or some other duly authorized person, is empowered under the London County Council (General Powers) Act, 1907, to take within and without the administrative county samples of milk produced or sold or intended for sale within the county. Power is also given to examine particular cows, and if it appears to the Council, on a report presented to it, that tuberculosis is caused or likely to be caused to persons residing in the county from the consumption of milk from any dairy, the Council may make an order prohibiting the sale of milk within the county from such dairy, and a penalty of £5 may be inflicted for contravention of the order. These powers were in force for the second half of 1908, and during that period 620 samples of milk were taken by the Council's inspectors from churns of milk consigned from the country to the various London railway termini and submitted to the Lister Institute for bacteriological examination. In the case of those samples in respect of which the bacteriological examination proved that there was evidence of the presence of tubercle bacilli, a clinical examination of the cows at the farm from which the milk had been consigned was made by the veterinary inspector appointed for the purpose. Of the 620 samples taken as many as 61 were found tuberculous.

The examination of 92 samples was not completed for various reasons, so that of the 528 samples of which a complete examination was made 11.6 proved to be tuberculous. As a result of the next step, when 4,997 cows were inspected on 190 dairy farms situated in seventeen different counties, there were discovered 147 cows with tuberculous udders. The supply of milk from these cows for human consumption was immediately stopped. The report continues:

> The experience gained during 1908 shows the magnitude of the evil to be dealt with, and that it is possible, even under existing circumstances, to take steps which must eventually materially reduce the amount of tuberculous milk supplied to London. The great need at the present time is, however, the systematic veterinary inspection of cows by the local authorities of the areas in which the dairy farms are situated, and the exclusion from the milk supply of the milk of cows suffering from

[1] Report of the Public Health Committee of the London County Council, submitting the report of the Medical Officer of Health of the County for the year 1908. London: P. S. King and Son. No. 1,299. Pp. 97, with 5 appendices, charts, etc. (3s. 6d.)

tuberculous disease of the udder, or showing clinical signs of tuberculous disease, or giving tuberculous milk. In this connexion it might be stated that provincial local authorities have generally shown willingness to co-operate with the Council in preventing the sale of milk from cows which the Council's veterinary inspector has certified to be suffering from tuberculous disease of the udder, and in a few instances veterinary inspectors have been appointed by the local authorities for the enforcement of the provisions of the Dairies and Cowsheds Order of 1899. The adoption of this latter course by certain authorities, which is an indirect effect of the administration of the Council's powers, is one of the most hopeful results of the Council's Act of 1907.

Slaughterhouses.

The number of premises licensed to be used as slaughterhouses is decreasing year by year. In 1892 there were 537 such places, and in 1908 only 273. The City of Westminster is the only district in which there are no slaughterhouses; in Holborn there is one and in Bermondsey only two, while in Islington there are thirty-four. In the City of London there are seven slaughterhouses licensed by and under the jurisdiction of the City Corporation.

Offensive Trades.

New by-laws were made by the County Council in 1907 with respect to certain other offensive trades, the material point in which they differed from those which they superseded being the extension of the principle of the use of a "closed chamber" to all offensive processes and improvement in the method of ventilation of these chambers.

Removal of House Refuse.

The scandal attached to the storing up of house refuse and the difficulties connected with its removal is becoming a relic of the past, and now, instead of the householder having to hail the dust-cart in its progress through the street, the County Council by-laws require the dustman to call at every house at prescribed intervals. The desirability of introducing a daily removal is being more generally recognized; especially is this the case in those districts where houses are built in flats, or where there are many artisans' dwellings. The need for a daily removal is also increased owing to the larger use of gas fires, in which it is not possible to burn vegetable refuse. The sanitary authority of Westminster decided in 1908 to extend to the whole area under its jurisdiction the system of daily removal which had hitherto been adopted in certain localities only.

Verminous Houses and Persons.

The systematic cleansing of houses and persons in a verminous condition cannot fail to have an indirect influence on the general health of the community. It is satisfactory, therefore, to find that the facilities provided for this purpose are being increasingly used. Nearly 5,000 rooms and premises were cleansed in 1908 by the various sanitary authorities, and no less than 30,000 persons took advantage of the means provided for ridding themselves of vermin, more than half of the whole number being in St. Marylebone. Sir Shirley Murphy quotes from the report of Dr. Sykes a statement to the effect that since the establishment of the cleansing stations in St. Pancras and St. Marylebone each of the boroughs shows a remarkable improvement in its position in regard to the prevalence of scarlet fever and diphtheria.

The Midwives Act.

The following information is given with reference to midwives:

The number of midwives giving addresses in London whose names have been placed on the roll was 3,020, made up as follows:

(*a*) 1,824 in virtue of a certificate obtained by examination prior to the Midwives Act, 1902.

(*b*) 1,011 in virtue of a certificate from the Central Midwives Board.

(*c*) 185 in virtue of having been in practice for a year prior to the passing of the Act.

After correcting for removals and deaths, where such had been reported, the number of certified midwives residing in London in 1908, was reduced to 2,690. Of these, 518 gave notice of their intention to practise during the year, including 32 midwives acting on specific occasions, but not practising regularly in London. The London midwives are classified as follows:

	Not Practising.	Notifying Intention to Practise during 1908.	Total.
Class (*a*)	1,392	206	1,598
Class (*b*)	716	204	920
Class (*c*)	64	108	172
	2,172	518	2,690

Many of the 204 midwives in class (*b*) who notified their intention to practise were newly qualified, and were working for short periods at the institutions where they were trained prior to taking up practice in other parts of England, or going abroad.

From the above figures it will be seen that less than 20 per cent. of the midwives residing in London are practising. The remainder for the most part act as monthly nurses under the direction of medical practitioners.

Of the practising midwives, some 25 reside at, and work in connexion with, lying-in hospitals or Poor Law infirmaries, and are under the supervision of medical practitioners. Others living in their own homes attend patients on behalf of charitable institutions, which pay them fees for each case allotted to them, a few taking no other cases, while others are also engaged in independent private practice. The rest practise independently, or work in lying-in institutions not under direct medical supervision.

Three practising midwives died, 12 gave up practice, and 27 removed from the county during the year.

All practising midwives, except those working under the direction of medical practitioners, are subject to supervision by the Council's officers. The work of inspection is carried out by a registered woman medical practitioner, who, in addition to making routine inspections for the purpose of ascertaining whether the rules of the Central Midwives Board are being observed, makes special inquiries into all cases of a septic nature. In connexion with the rule of the Central Board which requires a midwife under certain specified circumstances to send for medical assistance, it appears that during 1908 there were 2,755 such instances, an increase of 222 over the previous year, and of 1,642 over 1905. This increase Sir Shirley Murphy considers to be in part due to a fuller understanding of the rules, but also to the fact that midwives are recognizing better the necessity for calling medical assistance in cases in which there is the slightest sign of danger to their patients. It would be interesting to know in how many of the 2,755 instances the medical practitioner who attended to the call of the midwife received any remuneration for his services. Assuming that 30,000 births are annually attended in London by midwives, it appears that in 9.2 per cent. the midwife finds it necessary to send for medical assistance.

MANCHESTER.

THE MANCHESTER GUARDIANS AND CONSUMPTION.

THE Manchester and the Chorlton Boards of Guardians have recognized recently, perhaps, more than at any previous period, that a large proportion of paupers are made paupers directly through phthisis, and last week the two boards met in conference to consider the desirability of waiting upon the Health Committee of the Manchester Corporation to urge the corporation to provide a sanatorium where persons suffering from phthisis could be received before they arrived at a state of destitution. Considerable discussion arose as to the power of compulsory removal to hospital, and as to how families should be dealt with while the breadwinner might be in a sanatorium. There seemed, however, to be some disagreement on the question as to whether the corporation should be asked to make the provision. The Clerk of the Manchester Board thought the time had not arrived when they should ask the corporation to take the matter in hand, while the Clerk of the Chorlton Board said it was only

suggested that the corporation should provide for curable cases, and he thought that the medical faculty in Manchester would give every assistance to an establishment of the kind. After prolonged discussion the conference adjourned without arriving at any decision.

The question of compulsory removal to hospital of persons suffering from phthisis has been frequently discussed in Manchester, and no decision has been reached. The Majority Report of the Poor Law Commission expresses the opinion that the suggestion is beset with administrative difficulties, on the grounds that it may be a moot point at what period of its development phthisis becomes infectious; further, that the detention would often have to be for a considerable time, and that the knowledge that detention might be enforced would probably lead to concealment of the disease, or at least make it less possible to attract patients for treatment at the earlier and curable stages, and that public opinion is not likely to sanction such drastic powers of detention as would be involved in detaining all infectious cases. The Majority Commissioners, therefore, think that:

> Meantime the spread of phthisis must be checked mainly by a wider diffusion of the knowledge of its dangers and of the means of its prevention, and by a stimulation of the efforts of the authorities concerned with its prevention and cure. If, however, anything is to be done in the direction of detention of phthisis, a beginning might be made, perhaps, with advanced cases, in which, first, the medical officer pronounced the patient in such a condition as to be likely to communicate the disease, and, secondly, the home conditions of the patient are such as to lead with practical certainty to the spread of the disease.

In the last annual report of the Medical Officer of Health for Manchester some particulars are given as to the straits to which the families of consumptives have been reduced, and Dr. Niven strongly urges the importance of finding some way of securing such families against distress in the absence of the bread-winner. Though some working men would refuse such charitable assistance for their families as long as they could work, yet some provision of the kind would undoubtedly in most cases lessen the reluctance to enter a sanatorium in the early stage. It would seem to be impossible for boards of guardians to do anything in the matter, as they can only help those already in distress, whereas the object should be to prevent or forestall destitution. The guardians also labour under the further disability that they cannot legally provide sanatoriums except for the destitute; and, even though there is a practical certainty that the phthisical father of a family will sooner or later have to throw his family on the rates if he does not receive proper treatment in the early stages while he is still able to work, nevertheless the guardians can do nothing in the way of providing sanatorium treatment for him. This question of phthisis shows the absolute necessity of a reform which shall either increase the powers of guardians or replace them by an authority that can not only relieve existing distress but, as far as possible, forestall it.

But even in cases where the guardians have now power the Chorlton Board have not acted; they allowed their phthisis wards to get into a dangerous state of overcrowding, and the workhouse committee last week received a letter from the medical officer, Dr. Orchard, stating that in one pavilion devoted to phthisis, although extra beds had been placed in the wards, ten patients were sleeping on the floor and there were phthisis cases in most of the other wards, so that practically no isolation of the cases existed. The difficulty could be met by some rearrangement when the new wards were completed. Dr. Orchard attended the meeting of the board and explained how impossible it was to obtain isolation at present, and it was resolved that consent should be obtained from the Local Government Board to erect temporary structures to provide the necessary accommodation. It was suggested, however, that a house might be taken in the country, and the final decision as to the kind of accommodation to be provided was left for future consideration after interviewing the Local Government Board.

OPTICIANS AND STATE RECOGNITION.

At a meeting of the Manchester and North of England Optical Society, held at the Albion Hotel, Manchester, on January 5th, Mr. Hershberg, the Honorary Secretary, reported that in accordance with the resolution passed at the last meeting he had written to the secretaries of the different optical societies in the country with reference to the proposed federation of such organizations, the ultimate aim being the obtaining for qualified opticians of a legal status. So far four societies had replied expressing approval of the movement and intimating that representatives would be sent to the conference on the subject to be held in Manchester. The secretaries of other societies had replied stating that the matter would be placed before the next meeting of the members. The Scottish Optical Society had declined to take part in the movement. The societies who had answered in the affirmative were the Northern Optological Society, Manchester; the West Riding Optical Society; the Northern Counties Optical Society, and the National Association of Goldsmiths. After discussion, it was eventually decided to defer fixing a date for the conference until the next meeting, by which time it is hoped to have the replies of societies who have not yet dealt with the proposal.

LIVERPOOL.

ANNUAL DINNER OF THE BIRKENHEAD MEDICAL SOCIETY.

THE annual dinner of the Birkenhead Medical Society took place on January 8th in the Birkenhead Town Hall. The chair was taken by Dr. R. Sydney Marsden, M.O.H. for Birkenhead. Covers were laid for about sixty. The guests included Sir Thomas Fraser, F.R.S., Sir William Sinclair of Manchester, the Mayor of Birkenhead, and the President of the Liverpool Medical Institution.

THE ROYAL INFIRMARY.

The post of assistant physician, rendered vacant by the promotion of Dr. R. J. M. Buchanan to be physician, has been filled by the election of Dr. O. T. Williams. Dr. Williams was a distinguished student of the Royal Infirmary, and has done original work more especially in the department of pathological chemistry, a subject which he has studied in Germany as well as in this country.

WEST YORKSHIRE.

DINNER TO DR. GOYDER OF BRADFORD.

ON December 28th, 1909, the anniversary of his 80th birthday, a dinner was given to Dr. David Goyder.

Dr. Bronner took the initiative in the matter, and a great factor in the success of the evening was undoubtedly the excellent arrangements which he made, and the geniality which he inspired into the proceedings. The dinner took place at the Midland Hotel, Bradford, and the Chairman was Mr. T. Pridgin Teale of Leeds; over forty medical men were present, amongst whom were many of the leading practitioners of Bradford and district. Letters of apology at inability to attend were read from several medical men, including Dr. Eddison of Leeds and the President of the Bradford Medico-Chirurgical Society.

On the first page of the menu was the following:

> Deare Goydere was a Doctour of Phisyk,
> In all this world ne was ther noon him lyk,
> To speke of phisik and of surgerye;
> For he was grounded in astronomye.
> He kepte his pacient a ful greet del
> In houres, by his magic naturel.
> Wel coude he fortunen the ascendent
> Of his images for his pacient.
> He knew the cause of everich maladye,
> Were it hoot or cold, or moist or drye,
> And where engendred, and of what humour;
> He was a verrey parfit practisour.
>
> *The Prologue to the Canterbury Tales.*
> A.D. 1385.

Mr. Teale in the course of his remarks said it was a privilege and a delight for him to be present. It was about fifty years since he first knew Dr. Goyder, and his personality was one of the continuing elements that had always kept him in association with Bradford. Dr. Goyder had always been a great factor in the medical life of Bradford. He had promoted much friendly intercourse between the local medical men, which had tended to do away with jealousy and prejudice. He had always been specially active in assisting the good work of the Bradford Medico-Chirurgical Society.

Dr. Rabagliati said he could only supplement what Mr. Teale had said. His recollections of Dr. Goyder did not go back quite as far as Mr. Teale's, but he had had the pleasure and honour of knowing Dr. Goyder for forty years. Dr. Goyder was always the great moving spirit in the Bradford Medico-Chiurgical Society. One of his great characteristics was to keep the men together. He was a most versatile character. It was most gratifying to know that Dr. Goyder's son —a distinguished member of the medical profession of Bradford—was present that evening. He could never forget, when speaking of Dr. Goyder, his association with the late Dr. Brown of Bradford—a partnership which lasted eleven years. Nor could he dissociate from his mind the feeling of certainty that, if Dr. J. H. Bell had been alive and well, he would have been speaking there that evening to the good qualities of his old friend. In conclusion, he could only express the extreme pleasure that he had derived from being present that evening.

Dr. H. J. Campbell said that he spoke as the successor of Dr. Goyder in the treasurership of the Bradford Medico-Chirurgical Society. Dr. Goyder had been an inspiration to the society during the whole of its existence. He was most thorough and careful in everything he did, and the present flourishing condition of the society was largely due to Dr. Goyder's activity and work.

Dr. J. Metcalfe said that he had been asked, as chairman of the Bradford Division of the British Medical Association, to speak to one aspect of Dr. Goyder's life-work, and that a very important one. This was his long connexion in many capacities with the work of the British Medical Association. He had known Dr. Goyder for many years and he could only marvel that the ravages of time did not appear to have made any sensible inroads on his personality. Dr. Goyder, in fact, appeared to have discovered the secret of perennial youth. Dr. Goyder had been a member of the Association for forty-two years, was president of the Yorkshire Branch in 1882, and a vice-president since then. Since 1902 he had been a representative of the Yorkshire Branch on the General Council of the Association. He took the greatest interest in the new constitution and was the first chairman of the Bradford Division. Dr. Metcalfe said he was proud to bear witness to Dr. Goyder's good qualities and to his powerful influence on his day and generation. His efforts for the struggling members of his own profession were well known. He had had to work through domestic affliction that would have deterred any ordinary man. But his will had been indomitable.

Dr. Slater added a few words on Dr. Goyder's great hobby—the work he did as a Poor Law guardian. He was untiring, and was always attempting to unravel some Poor Law problem. His energy put his juniors to shame, and he was the most conscientious of all guardians he had ever known. Dr. Goyder always put the greatest literary grace and scientific details into the reports and memoranda prepared for the guardians. He could not say too much if he spoke all night of Dr. Goyder's good qualities. If he had the breath he would not have the vocabulary to do so.

Dr. Goyder, who was received with great applause and spoke with some emotion, said: I have been utterly at a loss to know how to give expression to your kindness in inviting me to this congratulatory dinner upon my 80th birthday, or how to show my gratitude for many benefits I have received at your hands in the past. At last I concluded that the best thing would be to recall to your memories some of the incidents of my professional life (for to state them all and the reflections arising out of them would take a volume) during the fifty years I have lived in Bradford, and allude to one or two points of which you may be ignorant. If I am too prolix, stop me without compunction. I only desire to state facts with as little comment as possible; in this friendly gathering the comments must be yours, whether of praise, contempt, or blame. Well, then, if you agree, I begin. I first came to Bradford in 1860 as assistant, and afterwards partner, to the late Dr. Brown. I was one of the founders of the Medico-Chirurgical Society, the original membership of which was twenty-five; of these, only three are now left. For twenty-five years I acted as honorary secretary, and was one time president of the society, and have always taken a very active interest in its affairs. One of the most important works ever undertaken by any society was that carried out by the Medico-Chirurgical. I allude to the Woolsorters Commission, during the sittings of which Dr. J. H. Bell made his investigations demonstrating the cause of woolsorters' disease to be the anthrax bacillus. The suggestion that anthrax might be the cause probably came from Dr. Eddison of Leeds, who had at that time been visiting Pasteur. I myself examined all the tissues microscopically. The findings of the Commission were affixed to the annual report published on the twenty-first anniversary of the society's existence in 1884. I took very great interest in the formation of the Medico-Ethical Society in 1875. We were able at a very early period to obtain excellent results with this society. A code of etiquette was drawn up. We arranged that fees for medical attendance should be based on the house rental; that the lowest midwifery fees should be 15s. if paid at the time, or one guinea if the case was booked; and we got the clubs to raise their payments from 2s. 6d. to 4s. per annum. Ultimately the society, after doing excellent work, and after splitting up into two societies, which again became amalgamated, was absorbed by the Bradford Division of the British Medical Association. I was, as you know, honorary medical officer for eighteen years to the Bradford Infirmary, and was connected with the Eye and Ear Hospital for three years as Dr. E. Bronner's assistant. I was actively engaged with the late Mr. Charles Semon, uncle of Sir Felix Semon, in founding the Semon Convalescent Home at Ilkley, and made arrangements for a large number of medical men to attend its opening. An interesting point connected with Mr. Semon was that he commissioned me to buy a complete set of surgical instruments for his nephew, who had recently come to London. I was connected with the formation of the Bradford Nurses' Institution, and acted as its honorary secretary for twenty-five years. I afterwards resigned my connexion with the institution, but during the past year my colleagues have honoured me by making me its chairman. I always took a great deal of interest in the British Medical Benevolent Fund, although it was somewhat uphill work, on account of the fact that in the West Riding there is the very excellent West Riding Medical Charitable Society. It has been difficult to get men to subscribe to both societies, but, for all that, during my connexion with the Benevolent Fund I have been able to send over £800 to head quarters. I joined the British Medical Association in 1867, and have been much interested in it ever since. I was President of the Yorkshire Branch in 1882, and was appointed in 1902 as the Branch Representative on the General Council of the Association. I could speak for a long time on the work of this great Association, but time forbids. I am glad to think that I believe the present unhappy differences of opinion will through a conference shortly disappear. I have taken a great interest as a Poor Law guardian in the work of the Bradford Board. I am extremely pleased with Dr. Slater's remarks on this "hobby" of mine. I have always been anxious to assist in medical matters and to help to promote the interests of the professional members doing district work.

Now, gentlemen, in conclusion I have a personal word or two to say. Believe it as you may I am free

to say that I have never been animated by mere ambition for position; I have never sought professional or other honours, but if these have come I have accepted them as incidents in the progress of any work I have undertaken to perform. My motto in my professional life, borrowed from that of the students' medical society of the old Andersonian College of Glasgow, has been *Pro Amicitia et Medicina*, a combination of the pursuit of medicine with the principles of amity and mutual professional kindness; because by friendship jealousy is banished, respect and assistance in professional difficulties is secured; emulation of each other's work and talents is more certainly promoted, and progress becomes more assured and lasting. Of necessity the older men must give place to the younger and better equipped in advancing knowledge, but there is always with the old the consciousness that when they *have* laboured, others in following their footsteps enter *into* their labours. The principle of usefulness to each and to all should be the motive force of our lives, for it eschews mere selfishness and follows the law of God in His universe, and of certainty is the law of the better world.

In the intervals songs were rendered by Dr. Carroll, a piano solo by Dr. Eurich, and a violoncello solo by Dr. Macvie. Dr. Eurich also acted as accompanist.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

ANTIVACCINATION CAMPAIGN.

AN active antivaccination campaign is at present being carried on throughout a large part of co. Wexford, and especially in the district of the Enniscorthy Union. For the last forty years the town of Enniscorthy has numbered amongst its inhabitants a few active antivaccinationists, but during the last twelve months a much more widespread feeling of antagonism to vaccination has sprung up, largely owing to the influence of articles which have appeared in one of the local papers, which is stated to be subsidized by an English antivaccination league. The attention of the Local Government Board has been called to the state of affairs prevailing thoughout the Enniscorthy Union, and, in consequence, one of their inspectors, Dr. Flinn, paid a visit to the district some months ago, but at that time failed to convince the Enniscorthy guardians that they were making a mistake in practically suspending the Vaccination Act. In the Wexford district public opposition to vaccination is also very vigorous, but here the guardians have determined to enforce the law, and, as a result, four Wexford men recently elected to go to prison rather than allow their children to be vaccinated. The medical officers of the Enniscorthy dispensaries have endeavoured by every means to inform the public of the true value of vaccination, and especially to bring home to the minds of the people the entire absence of risk entailed by vaccination; but finding that their efforts are not sufficient to cope with the situation, they have now addressed themselves to the Royal College of Physicians in Ireland asking it to address the public by resolution, and to point out to the people the grave danger they incur by the neglect of vaccination.

DUBLIN HOSPITALS TUBERCULOSIS COMMITTEE.

At a quarterly meeting of the Dublin Hospitals Tuberculosis Committee held in the Royal College of Physicians, Dublin, on January 4th, reports were received from the special tuberculosis district nurses who have been at work in Dublin and its suburbs during the greater part of the year 1909. During the nine months ending November 20th, 1909, the two Dublin nurses attended 297 cases, and paid a total of 4,939 visits. Fourteen of the patients improved sufficiently during that time to return to work, 45 were admitted to sanatoriums or institutions for special treatment, and 39 died. In addition to visiting patients much useful work was done in other directions. Thus, through the agency of these nurses, eighty-eight rooms have been disinfected, forty-eight sputum flasks have been distributed, 87 children of tuberculous parents have been sent to the country, and nourishment has been provided for a large number of patients and their families. The nurse employed in Terenure reports that during the seven months ending November 20th, 1909, she paid a total of 277 visits to 28 separate patients. She has been the means also of distributing nourishment and other necessities to several families. It is important to note that out of the 325 cases observed in Dublin and Terenure there were fifty-five families in which more than one person was affected, and that amongst the total number of families of whom one or more individual was tuberculous 114 were in occupancy of only one room.

DUBLIN STUDENTS' UNION.

At a largely attended meeting of the students of the Royal College of Surgeons in Ireland, held recently, it was unanimously resolved to form a students' union. One of the principal objects it is hoped to attain is to bring together the students and to give them the benefits of some form of corporate life which they at present do not possess. The Trinity College school and most of the English and Scottish schools already possess such unions, and their value, both from the educational and social points of view, is admitted on all sides. The project has already received substantial support both from the council of the college and from individual fellows and professors.

CHILDREN'S HOSPITAL, TEMPLE STREET, DUBLIN.

An amateur dramatic performance, under the patronage of Their Excellencies the Lord Lieutenant and Lady Aberdeen, was given on January 6th in the Empire Theatre, Dublin, in aid of the Temple Street Children's Hospital. During the past year the board of this hospital has opened a convalescent home in the country for the reception of patients in need of country air, and the immediate object of the dramatic performance was to raise funds for improving the lighting accommodation and for increasing the water supply to this home. It was the first of a series of three entertainments arranged to raise funds for this object. The other two entertainments were public balls held in the Rotunda on January 7th and 8th respectively.

HEALTH OF BELFAST.

At the monthly meeting of the City Council held on January 3rd, the death-rate for the preceding four weeks was returned as 23.9; this rise is due chiefly to the great increase of deaths from respiratory trouble and to pneumonia; the number registered for the last disease (109) is more than double that for the corresponding period of last year (50). A comparative table for the preceding four years shows a steady fall in typhoid; 551 were notified in 1906, as compared with 109 in 1909; also in scarlatina, simple fever, and pulmonary tuberculosis; the death-rate from zymotic diseases has fallen from 2.5 steadily to 1.3; the phthisis-rate from 2.7, 2.5, 2.3, to 2.1 (1.9 English method). In 1901 the death-rate for the city was 22.4; in 1905, 20; and in 1909, 18. For several years previous to 1906 strong representations were made as to the unduly high general death-rate of the city, and to the excessive rate of typhoid and phthisis; in 1906 more than one public meeting was held at which a firm protest was made against the lax system into which the health matters of the city had been allowed to drift. This action was severely condemned by the Health Committee at the time. The reformers, however, were clearly justified in their action, as proved by the great improvement which has since taken place.

SHELLFISH AND THE PURIFICATION OF BELFAST LOUGH.

At the same meeting a resolution was carried granting £3,000 for the purpose of clearing as an experiment 100 acres of the foreshore of the lough of shellfish, as recommended by the Royal Commission on Sewage

Disposal. The Commission found that mussel beds formed an excellent anchorage for the *Ulva latissima;* and it was thought that removal of the beds might check the development of the weed.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

SAD BOATING ACCIDENT.

MR. R. M. NICHOLSON, M.B., Ch.B., and Mr. R. Bell, a student of medicine near the end of his course, left Edinburgh on Friday evening, January 7th, to spend the week end at the village of Cramond, near Dalmeny and Barnbogle Castle. They left Cramond on Saturday morning in a frail punt with the intention of having some duck shooting on Cramond Island, about a mile from the shore. As a south-westerly gale had sprung up in the afternoon, increasing with the evening, and they did not return, fears were felt as to their safety. Unhappily these fears were too sadly confirmed, for on Sunday afternoon the body of Dr. Nicholson was found on the beach between Cramond and Dalmeny, with two fowling-pieces lying near him. The body of Mr. Bell was found near the same place on January 11th. Dr. Nicholson received his degrees only a week or two ago, and was soon to have left Edinburgh to join his father, Dr. John Nicholson, who is in practice at Benalla, Victoria, Australia. The disaster has created a profound feeling of pain and sympathy. The funeral of Dr. Nicholson took place from the Drill Hall, Forrest Road, on Wednesday, January 12th. He was a keen volunteer, and the officers and men of the 4th and 5th Battalions Royal Scots turned out to the funeral procession to the station. The body was conveyed to Penrith for burial.

POOR LAW MEDICAL OFFICERS.

In accordance with a promise given by the Lord Advocate to Mr. Cathcart Wason, a return has just been issued by the Scottish Office showing in how many and what parishes Poor Law medical officers in Scotland have vacated office during the period from May 15th, 1906, to May 15th, 1909, and the period that elapsed in each case before the appointments were permanently filled. There is nothing in the return to show how many of these vacated appointments were due to death vacancy or to voluntary resignations. The number of vacated appointments during the three years under review amounted to 208; of these, 87 were filled without any delay; the balance were filled at periods varying from two days to eleven months. The average time taken to fill the vacated appointments seems to have been about two months. The return does not seem to serve any very useful purpose, because, beyond the fact of stating the number of vacated appointments and the time taken permanently to refill them, there is nothing to show —what evidently was in Mr. Cathcart Wason's mind— the number of dismissals of Poor Law medical officers and the trouble thereby entailed on the poor. Included in this return there is to our certain knowledge more than one death vacancy. What is really wanted is a return showing the number of dismissals and the reasons.

GLASGOW AND THE NOTIFICATION OF TUBERCULOSIS.

The *Glasgow Herald* states that the decision of the corporation to make pulmonary tuberculosis notifiable for three years from January 1st, 1910, is but a first step in the campaign which it is undertaking against this disease. What is practically a new branch of the public health service of the city has been formed to follow up notification by practical and remedial measures. Acting under the medical officer there will be a special medical assistant, who will investigate the causes of consumption in the city. Arrangements have also been made with the parish councils of Glasgow and Govan for consultations to be held in the public dispensaries owned by these bodies. At each dispensary there will be in attendance a medical practitioner, appointed by the corporation, who will make an examination of all cases presenting themselves, and advise the patients as to treatment. In addition, there will be attached to each dispensary a trained nurse, who will visit selected cases in their own homes to see that the instructions of the medical advisers are being carried out. In Glasgow alone the disease claims an annual tribute of some 1,300 lives.

New Zealand.

[*FROM OUR SPECIAL CORRESPONDENT.*]

LUNACY IN 1908.

THE annual report for the year 1908 of Dr. Frank Hay, Inspector-General of the Insane for the Mental Hospitals of the Dominion of New Zealand, shows that on January 1st, 1908, the number of patients on the register was 3,240, and on the last day of the year 3,414, giving an increase for the year of 174. This increase, which is the largest annual increase recorded, may be compared with the last quinquennial increase of 78, or with that preceding of 84. The ratio of the total insane to population at the end of the year was, exclusive of Maoris, 35.13 per 10,000, or 1 in every 285; or, inclusive of Maoris, 33.86 per 10,000, or 1 in every 295. As compared with the figures of the previous year, the ratio to population rose by 0.33 per 10,000 for males and 1.03 per 10,000 for females. The total cases under care during the year numbered 3,999, and the average number daily resident 3,240.

Admissions.

During the year, and excluding transfers from one hospital to another, the admissions were 744, as compared with 600 for the previous year. Of the total admissions 610 were admitted for the first time. A table furnished by Dr. Hay shows that the ratio of first admissions to population during the last ten years has fluctuated between 4.71 per 10,000 of population in 1899 and 6.24 per 10,000 in 1908, and also that the ratio for this last year was exceptional, the quinquennial average for 1898–1902 having been 5.11, and that for 1903–1907, 5.50 per 10,000. As regards nationality no table is furnished showing the native origin of the admissions, but a table in the appendix shows that of those resident in the hospitals at the end of the year 1,188 were born in New Zealand; 118 in Australian States; 851 in England and Wales, 596 in Ireland, and 373 in Scotland, the remainder belonging to many other countries. That Scotland should contribute a considerably smaller number of insane to the asylums, not only in New Zealand but in all of the Australian States, than Ireland, affords interesting matter for speculation. For this reason a table showing the relative proportions of the elements of the populations of these States, arranged according to their native countries, would be of some value.

It is stated that in 374 of the total admissions the attacks were first attacks within three and in 86 more within twelve months of admission; in 153 not first attacks within twelve months; in 7 the duration was unknown, and in the remaining 139 the attacks were of more than twelve months' duration on admission. No information with regard to the forms of mental disorder obtaining among the admissions is given, but as to causation the various etiological factors were assigned in the following proportions: Alcoholism and drug habits in 12.39 per cent., syphilis in 3.9 per cent., critical periods in 14.89 per cent., brain disorders in 6.19 per cent., other diseases in 7.11 per cent., previous attacks in 7.77 per cent., mental stress in 8.04 per cent., an insane heredity and congenital defect in 19.63 per cent., various other causes in 13.44 per cent., and in 10.54 per cent. no cause could be assigned.

Discharges and Deaths.

During the year 326 were discharged as recovered, giving a recovery-rate on the admissions of 43.82 per cent., 22 as relieved, and 15 as not improved. In an

interesting discussion of the value of recovery-rates as an index of the results of treatment, Dr. Hay says that in New Zealand a growing belief in the efficacy of asylum treatment is resulting in a greater influx of patients in the earlier and more recoverable stages of mental disorder. At the same time, however, he says, this confidence is bringing about, as in England, the admission of large numbers of irrecoverable cases who would in former times have been tended in their own homes. The net result of this has been, he considers, the neutralizing of one set of factors by the other. The recovery-rate, therefore, is not a standard for estimating the value of treatment. In order to arrive at a more definite idea on this matter, Dr. Hay presents a statement of the year's history of patients in whose case recovery, in view of the clinical form of their malady, was deemed probable. The return shows that of the 3,240 patients resident on January 1st, 1908, only 160 were expected to be discharged as recovered, and that 124 of these were discharged as recovered during the year. Excluding irrecoverables, there remained 117, and of these 23 were discharged as recovered. Turning to the admissions, 265 were considered likely to recover, and 164 were discharged recovered. Excluding the incurable admissions, there remained 150, of whom 15 were discharged recovered. To sum up the whole matter, Dr. Hay says that "though the general total shows that during the year there were 692 patients who were classed as more or less curable, yet the proportion of curable cases at any one time is a small fraction of the number resident. Take, for example, the relative position on January 1st, the figures for which we possess. On that date, for only 4.94 per cent. of the inmates was there reasonable expectation of recovery, and, even when possibilities are added to probabilities, the proportion is merely advanced to 8.55 per cent." During the year 222 died, giving a death-rate on the average numbers resident of 6.85 per cent. The deaths were due in 73 to cerebro-spinal diseases, with only 26 from general paralysis; in 12 to respiratory diseases; in 25 to diseases of the heart and blood vessels; in 21 to digestive and genito urinary diseases; in 2 to suicide, and in the remainder to general diseases, including 36 from senile decay, and 25, or 11.2 per cent. of the total deaths, from tuberculosis.

Accommodation.

Owing to the considerable increase of New Zealand's insane, the accommodation was strained during the year, and will be still further taxed in the near future owing to the enforced abandonment of Mount View for the erection of Government House. A large building programme, however, has been drawn up; the site for a central mental hospital has been selected; considerable additions are to be made to existing hospitals and a special mental hospital, to be called the Wolfe Bequest Hospital after a large donor, is intended for the early treatment of mental diseases on the lines of a general hospital. Descriptions and plans of this new hospital are incorporated in Dr. Hay's report.

Cost.

The average yearly cost of each patient in the New Zealand mental hospitals for 1908 was £35 10s. 9½d. or, deducting repayments for maintenance, £27 12s. 11½d.

British Guiana.

SURGEON-GENERAL'S REPORT FOR THE YEAR 1908–9.

THE report of the Surgeon-General, Dr. J. E. Godfrey, for the year 1908–9 has recently been received. The Government medical service supplies officers for the five hospitals in the colony, to the seventeen districts, and to the lunatic and leper asylums. There is also a bacteriologist and Government veterinary surgeon. The total medical staff consists of twenty-nine.

The largest hospital is in Georgetown. It has accommodation for 291 males and 245 females. During the year under review 12,023 in-patients and 44,216 out-patients were treated. There were 532 births in the maternity ward. The deaths numbered 1,158, which gives a rate of 9.6 per cent. of the cases treated; this is low when it is considered that 22 per cent. died twenty-four hours after admission, and no less than 39 per cent. within seventy-two hours after admission. The children's ward has been equipped during the year with thirty modern cots. An important addition to the hospital was made during the year—namely, rooms for isolating lunatics pending their transfer to the lunatic asylum. A considerable number of operations (including 788 major operations) were performed by the staff during the year.

The hospitals at New Amsterdam, Suddie, Bartica, Morawhanna, and Arakaka are very much smaller than that at Georgetown, but all seem to be doing good work. One feature in connexion with these hospitals is the large number of patients treated, but possibly this is due to the fact that a large proportion of the cases are of a trivial nature, and their stay in hospital is short. The chief diseases were malarial fever, pneumonia, ankylostomiasis, diseases of heart and kidney, with phthisis and syphilis. There is a special ward for phthisical patients in the Georgetown Hospital, but the superintendent states that the results are disappointing, the patients refusing to submit to the prolonged course of treatment necessary. The nursing establishment of all the hospitals seems to be on a very satisfactory basis; there is a superintendent of nurses in the Georgetown and New Amsterdam Hospitals. Lectures are given by the staff and examinations held at stated intervals.

The public lunatic asylum at Berbice has accommodation for 803 patients, the average number resident daily during the year was—males 472, females 271.

The public leper asylum at Mahaica had under treatment during the year 532 patients, 388 being males and 144 females, the average number daily under treatment being 419. The total number of deaths was—males 39 and females 17, being approximately 10.3 per cent. on the total number of inmates. The chief diseases treated, irrespective of the primary disease (leprosy), were those of the intestinal canal, and these lesions, along with Bright's disease, were the chief causes of death. During the year a trial had been given to the nastin treatment of leprosy introduced by Professor Deycke. In all, 115 patients were treated by nastin; it is deemed too soon to offer any opinion as to the ultimate results of this treatment, but improvements, the medical superintendent reports, as far as external disfigurement is concerned, have undoubtedly taken place in some cases.

In the Bacteriological Department the bacteriologist, who has one laboratory assistant, examined 1,542 specimens, including sputum for tubercle bacillus, blood for filaria, etc. Special investigations were made in connexion with (*a*) biting flies, (*b*) cancer, and (*c*) rat virus. During the year this department made 567 *post-mortem* examinations. The *x*-ray apparatus is under the management of the bacteriologist. Two Clayton disinfecting machines imported by the Government during the year are also in charge of this department.

The health of the colony is reported to have been satisfactory, the number of deaths being 9,381, or 1,881 less than the previous year. This represents a death-rate of 30.8 per 1,000, as against 36.9 per 1,000 for the previous year. The births numbered 8,299, or 307 less than the previous year. This represents a birth-rate of 27.3, as against 28.3 for 1907. The mortality amongst children under 1 year is high, being equal to a rate of 198 per 1,000 births, but compares with a rate of 256 per 1,000 for the previous year. The mean rate for the last five years was 210 per 1,000. Tuberculosis is very prevalent in the colony, and accounts for 7.4 per cent. of the total mortality of the colony.

Malarial fever claims a large number of victims every year, and until the inhabitants realize that mosquitos are the carriers of this disease it will continue to do so. Regulations regarding vat screening have been passed by the mayor and town council, but have not been enforced, except at the Government institutions, where the vats and tanks have been made mosquito proof. The report states that the sale of

quinine is steadily increasing, 2,076 oz. having been sold at cost price during the year.

The bacteriologist states that the mortality from ankylostomiasis is not, as a rule, high, except in the case of infected pregnant women, when it is very considerable; this has a very important bearing not only on the death-rate of the women, but also on the birth-rate.

On the whole, the report shows that the medical service of the colony is carried out with a due regard to the well-being of the community, and that the hospitals and medical service in the various districts are up to date. The facts reflect great credit on the department which is so ably managed by the present Surgeon-General, Dr. Godfrey.

Hong Kong.

[*FROM OUR SPECIAL CORRESPONDENT.*]

PRESENTATION TO DR. J. C. THOMSON.

AT a meeting of the Senate, licentiates, and students of the Hong Kong College of Medicine, held in the Legislative Council Chambers, Dr. J. C. Thomson was presented with a massive English silver tray on the occasion of his approaching departure from the colony. Dr. F. Clarke, Dean of the College, in making the presentation, referred to Dr. Thomson's long service to the college, which extended over a period of twenty-one years. It was, he said, in 1889 that Dr. Thomson was appointed Lecturer on Pathology, and in 1891 he became secretary of the college, and in recent years had taught tropical diseases and clinical medicine. Dr. Thomson had worked energetically in the interests of the college, and had successfully overcome many difficulties incident to an institution in its infancy, and his departure would be felt as a great loss to the college. Dr. Thomson, in replying, thanked the members of the college for their generous gift, and briefly sketched the progress of the institution from its earliest days, when Sir Patrick Manson, Drs. Cantlie, Hartigan, Jordan, and Atkinson were some of the lecturers, down to the present day, when many facilities had been opened up for practical work, the preliminary examination had been recognized by the General Medical Council, and the college was about to be merged in the larger movement of the Hong Kong University.

Dr. Thomson will also receive presentations from the Directors of the Tung Wa Hospital and the students of the college.

Special Correspondence.

PARIS.

Sir Rubert Boyce in Paris.—The Raising of Fees of Medical Practitioners.—Paris Nurses Demand Higher Wages.—Gift of Model Workmen's Tenements.

SIR RUBERT BOYCE was recently present at the opening lecture to his university class given by Professor Blanchard, the Professor of Parasitology in the Faculty of Medicine. Professor Blanchard took as the theme of his lecture the part played by the Liverpool School in the study of tropical diseases, and described the work of Professor Boyce in the fight against malaria and yellow fever in British Honduras, the West Indies, and Venezuela. He spoke with envy of the flourishing condition and laboratories of the Liverpool School. The Institute of Colonial Medicine in Paris, which was founded in 1902, attracts about thirty students annually, most of whom come from the Latin races of South America. Professor Blanchard then welcomed Sir Rubert Boyce, who, speaking in French, emphasized the importance of parasitology; the parasites were living, and lived, as our cells did, as part of ourselves, but at our expense, and could get accustomed to quinine and arsenic in the same way as the cells of the human organism. The question of the day was the fight between parasites and man, a struggle between highly organized cells. The white races lived on the earth because they had escaped parasites; the African races were not so civilized as the white because of parasites, and the decadence of ancient Greece was due to the importation of slaves from Africa, who brought with them the parasites of malaria. Fossil tsetse flies had been found in tertiary deposits in North America, which explained the different fauna of that country. The study of parasitology was, in reality, the history of man. We must be practical, and as our intelligence is vaster than that of protozoa we must get rid of them and destroy the rats and mosquitos and other carriers of infection. Professor Laudouzy thanked Professor Boyce for his interesting address, and as Dean of the old University of Paris welcomed the Dean of the young school of Liverpool, whose work had been appreciated by the scientific world and had opened up the Black Continent to the European settler. Professor Laudouzy concluded by referring to the pleasure he had had in the exchange of visits of the English and French profession, and visits such as that of Professor Boyce did much to draw closer the bonds of the "entente cordiale médicale" between the two countries.

Whereas the cost of living has greatly increased in Paris and the wages of the working classes have increased in proportion, the scale of fees paid to medical men has remained the same as it was thirty years ago, with the result that the general practitioners have great difficulty in making a living. The question of raising the fees has been discussed at the meeting of the Syndicat des Médecins de la Seine, with the result that many of the sections of the syndicate have given notice to the members residing in their respective quarters of Paris of the minimum scale of fees they should charge—for example, in the Eighth Arrondissement (Madeleine quarter) the scale of fees in future will be as follows:

To all servants, workmen, and small employees the fee will be 5 francs for medical advice at the doctor's or the patient's residence.

To all shopkeepers and private persons who have servants or employees at their service the fee will be 10 francs.

All night visits and visits on Sundays and fête days will be charged double tariff.

The nurses employed in the Paris hospitals have held a meeting in the Bourse du Travail, and passed unanimously a resolution demanding that their wages should be raised to 5 francs a day.

The Princesse de Polignac has given a plot of 4,000 metres in the Thirteenth Arrondissement and a sum of 500,000 francs (£20,000) for the construction of model workmen's dwellings. One half of the available land will be occupied by two large tenement houses, with an avenue of trees between, the other half being divided into private gardens for the tenants. There will be eighty small apartments in the tenement blocks, which will also contain bathrooms, a washhouse, and a lecture hall. The highest rental will be 450 francs (£18) a year. The architect is M. Georges Vaudoyer, who has designed similar houses for "Le Foyer" Society in the Rue Laplace.

VIENNA.

A Suggested Tax on Prescriptions.—The Title of Specialist.—An Interesting Operation for "Concretio Cordis."

ONCE again the old suggestion of a tax on medical prescriptions has been brought before the public by a report of the Union of Medical Councils which recommends this measure. The suggestion has always been rejected, as the tax would not only be burdensome but would be difficult to work. The suggestion is to have every prescription stamped every time it is made up by the apothecary, who alone is entitled in this country to dispense medicines. The amount would be small, about a farthing per prescription, and the stamps necessary for this purpose would be procurable from the district medical council by the apothecary. It is estimated that at least a sum of £2,500 could be collected thus yearly, a sum which would be available for strictly medical purposes of a public nature: for instance, towards payment of inspectors of public charitable institutions or grants for special work by medical men in safeguarding the public health. So trifling a sum would hardly be felt by the individual patient, but it is doubtful whether the pharmacists would agree to the necessary co-operation, and neither the profession nor the public is likely to submit willingly to the measure.

The question, Who shall style himself a specialist? is now under discussion in this country, as it is in Germany. Here any doctor can affix to his name on the doorplate the words, "Specialist in Diseases of Children," or any other branch of medicine, without anybody questioning his right to do so. In these circumstances many a man fresh from the hospital styles himself "Specialist in Pediatrics and Obstetrics," which is the most favoured combination. The medical councils and the local medical associations have taken recently the matter in hand, and these bodies, in co-operation with the university staff, have drawn up a series of rules, which have been submitted to the consideration of the profession. The rules are very similar to those suggested in Germany by the Government. It is proposed that the title "Specialist" shall in future not be a simple denomination, but an official degree, obtained from a university. Any doctor who has been working either at a special hospital or a clinic for at least three years, and has been under a recognized specialist for at least one year, may present himself for examination in the branch of practice at which he has been working. He will not be prevented from practising any other part of medicine, too, if he chooses. The branches recognized as specialities are the following: Medicine, surgery, gynaecology and obstetrics, diseases of children, dermatology, otology, rhino-laryngology (the two latter may also be combined), ophthalmology, electrotherapeutics, neurology and psychiatry. No restriction as to the number of specialists has been recommended. The idea has been received with approval by the profession, as it is hoped that it would do away with a good deal of unpleasant and unethical conditions.

At a recent meeting of the Gesellschaft der Aerzte, Dr. v. Haberer demonstrated a patient on whom he had performed in Eiselsberg's clinic an extensive resection of the fourth, fifth, and sixth ribs to increase the space for the working of the heart. The patient had been suffering from concretio cordis, and the adhesions between the heart and the pericardium had caused very marked cyanosis, oedema, and respiratory trouble. The surgeon also removed the posterior part of the periosteum of the costal parts resected, in order to prevent the possibility of a new formation of bone. He recommends that the operation should be begun at the sixth rib, because the part of the heart most obstructed is generally the apex, which is at once freed by this procedure, giving a better pulse and more ease during the latter steps of the operation. Generally rapid recovery with a marvellously improved general health are the result.

Correspondence.

THE MEDICAL PROFESSION AND PARLIAMENTARY REPRESENTATION.

SIR,—In your issue of January 8th the article by Dr. Clippingdale and the letter from Mr. Fremantle forcibly remind your readers of the paramount need which exists for further and more direct representation of the medical profession in Parliament.

Mr. Fremantle, in his suggestive communication, truly indicates several of the difficulties which a medical man, as distinguished from those engaged in many other active vocations, must of necessity experience in endeavouring to combine his professional work with parliamentary duties. He outlines, further, a scheme intended to meet the financial aspect of the difficulties, and there can be little doubt that in the near future the medical profession will have such good cause to be fully alive to the urgent importance of direct representation in the House of Commons that the necessary funds to provide for a suitable scheme will be readily contributed.

Meanwhile, with a General Election upon us, and in the absence of any such scheme as would enable the profession effectively to support a medical candidate under the aegis of one or other political party in the general parliamentary divisions of the country, we may be well advised to consider the possibility of securing a useful degree of direct representation in and through one of the special constituencies such as those still provided for the several universities.

In this connexion the constituency of the Edinburgh and St. Andrews Universities should undoubtedly be one of the most amenable, where the majority of the electorate is composed of medical graduates. For this constituency Sir Robert Finlay, K.C., has been adopted by the Conservative Association as the prospective candidate, and later the announcement was made that Emeritus Professor Sir Alexander Russell Simpson has consented to stand as Liberal candidate. It is to be hoped that the recommendation conveyed in your article in the issue of December 18th has been effective, and that many medical graduates have not pledged themselves definitely in respect of the first-named candidate before the announcement of Sir Alexander's name.

As an Edinburgh medical graduate, who is also an officer of the British Medical Association, I trust it may not be considered out of place for me to urge briefly Sir Alexander Simpson's claim upon the support of those whose political convictions are not too strongly engaged on behalf of his opponent.

For those who, like myself, are in agreement with Sir Alexander's political views, it would be as futile as it would be unbecoming to do other than fully recognize that in Sir Robert Finlay the constituency has a candidate of eminence and of distinction in the legal profession; and, further, that we may claim him as an Edinburgh medical graduate. It appears, however, that he practised medicine for a limited period only, and on the basis of comparison of intimate knowledge of the legislative and economic needs of our profession, the great advantage must be with Sir Alexander Simpson.

The history of the treatment in Parliament, by either of the great political parties, of medical bills and Acts, furnishes ample proof of the pressing need of our profession for medical members of the House of Commons who realize that their presence in that assembly is dependent on medical votes.

With regard to the candidates now before the constituency of the Edinburgh and St. Andrews Universities, it is computed that, allowing for abstentions, the other factors of the electorate are likely so to exercise their suffrages as to leave the issue determined by the votes of the medical graduates.

I heartily concur in the appreciation of Sir Alexander's record of public and professional services in the note in the issue of the JOURNAL for January 1st, and I trust that the response will be such as to constitute the result of this election a first instalment of direct representation of our profession in Parliament.—I am, etc.,

Cardiff, Jan. 10th. EWEN J. MACLEAN.

PRISON DOCTORS AND THE HOME OFFICE.

SIR,—It is incredible that a person in Dr. Donkin's position can have the hardihood to state, as he does in your issue of January 8th, that I argue without proofs. If your readers will but kindly refer to my letter in your issue of January 1st they will find every one of my statements is accompanied by its proofs, namely, the sworn evidence given in court or Mr. Masterman's statement in the House of Commons, etc. His final and deliberate misstatement is, perhaps, the worst of all that he has written on this subject either in our JOURNAL or in the *Times*, namely, that I am attacking the prison doctors, whereas all my letters and your leading article have obviously been written to show that the guilt of forcibly feeding political prisoners rests upon the Home Secretary and upon Dr. Donkin, but *not* on the prison doctors. Dr. Donkin is evidently greatly indebted to the Honourable Claude Hay for his methods of controversy.—I am, etc.,

London, W., Jan. 11th. VICTOR HORSLEY.

SIR,—As I have been somewhat closely concerned in the affairs which have led to this discussion in your columns, may I be allowed space, first, to correct certain inaccuracies, and secondly, to explain the position of a prison medical officer in this connexion?

The Home Secretary having decided that he could no longer recommend the exercise of the royal prerogative to save these prisoners from the legal consequences of their action, the issue became a very clearly defined one. Either they must take food or they must die, with the corollary that, as I was responsible for their lives, I must,

persuasion failing, either compel them to take food or allow them to die. Therefore Sir Victor Horsley is wrong in describing as incorrect (BRITISH MEDICAL JOURNAL, January 1st) the statement that "the doctor did it to save life."

Sir Victor Horsley is also incorrect, in the same place, as regards my evidence. Prison medical officers in previous—that is, non-suffragette—cases of forcible feeding have, so far as I am aware, always carried it out without previous reference to the Home Office, and I did not in court "swear the exact opposite." What I stated was that in these particular cases I referred to the Home Office because it was a matter of common knowledge that in previous suffragette cases of so-called hunger-striking the prisoners had been treated differently from ordinary prisoners, and sentences imposed on them by the magistrates remitted. In reply I was informed that they were not to be released, and therefore the procedure hitherto adopted for ordinary prisoners was applicable to, and necessary for, these ladies. The only departure from the ordinary custom which was directed by the Home Secretary was that the Governor was instructed to furnish a daily report, enclosing one from me, to the Home Office.

Now, Sir, it is suggested in your leading article that an undue responsibility has been thrown on me by the Home Secretary, and Sir Victor Horsley suggests that the Home Secretary has used me, and other prison medical officers, as tools wherewith to carry out a vindictive policy on his political opponents.

With regard to the first, I submit that had *undue* responsibility been thrown upon me I should surely have been the first to be conscious of it; and I was not so conscious. In regard to the second, I cannot help wondering whether Sir Victor Horsley recognizes that his assertions involve a charge against prison medical officers of having *permitted* themselves to be made tools of for political purposes. Surely a very grave charge, and one which renders Sir Victor's kindly championship of the prison medical officers a source of embarrassment to those whose cause he has espoused. Should I be guilty of ingratitude to Sir Victor Horsley if I were to suggest that in accusing the Home Secretary of using prison medical officers as tools wherewith to attack his political opponents the suffragettes, Sir Victor is (doubtless inadvertently) using the prison medical officers to attack his political opponent the Home Secretary?—I am, etc.,

E. H. HELBY,
Medical Officer.

His Majesty's Prison, Birmingham, Jan. 11th.

SIR,—Whether the Home Office did or did not order the forcible feeding of the food-abstaining suffragettes, it is clear that at any rate it tacitly acquiesced, inasmuch as it did not either forbid or stop the process. It is, moreover, difficult to see how it could have done otherwise than throw the necessity for the treatment upon the prison doctors. Only three things were possible—either to discharge the prisoners, to let them die, or to feed them forcibly. The first was apparently thought not advisable, as it would have made the legal position absurd; the second would have necessitated an inquest and caused a great scandal; so evidently the only plan was the third, and the responsibility of treating the prisoners to a successful issue could rest with no one but the doctors, whose only way of shirking this responsibility was by running away from it. Why should they have shirked this responsibility? They are there to deal with the medical aspect of cases, and the only way at present known of dealing with voluntary starvation is by artificial feeding.

During my asylum experience, I fed by the stomach tube numbers of insane patients, and neither my Committee, nor the Lunacy Commissioners, nor the Local Government Board deemed it necessary to interfere in any way, nor to do more than require a report in the case-book of what was done; but if I had neglected to do this simple operation and the patient had died from inanition, the blame would (and rightly) have been placed on my shoulders, and the above-mentioned authorities would (quite properly) have said that I alone was responsible. That my patients were insane and the "political prisoners" not insane does not affect the argument, because in both cases life was in danger from want of food.

A Government can "order" a file of soldiers to shoot a traitor, and experience shows that the public holds the Government, and not the soldiers, responsible for the act In the case of the suffragettes, where the object was to uphold the law and to save the health of the prisoners, any "order" that was issued could have been nothing more than a permit to act in a certain way under certain conditions, and for the due estimation of those conditions the doctors alone could be—as no doubt they were—responsible. At the most, then, the Home Office could only be accessories, and if any legal action was to be brought it was of necessity brought against the doctors, who were responsible for employing a method which in their opinion was necessary. It is a legal act for a constituted authority to "order" the execution of a criminal—there is no law to compel a medical man to perform an operation, and if he does one he must accept the responsibility for doing it. That the "political prisoners" would have taken their food if they had been placed in the first division has nothing to do with the question. The law placed them where it considered right, and the doctors had to deal with the complications which arose apart from all considerations of equity.—I am, etc.,

London, W., Jan. 3rd. T. CLAYE SHAW.

SIR,—May I ask Sir Victor Horsley a question bearing both on points of principle and of practical politics? He writes: "The profession will have to consider . . . under what circumstances they will, at the bidding of a Minister perform operations upon prisoners who refuse to undergo the same." Now, suppose a murderer awaiting trial or a fraudulent company promoter under sentence refused food, how would Sir Victor Horsley, if he were a prison medical officer, a paid public official who had contracted to do his utmost to keep his charges in health, treat such a case?

Would he decline, either of his own initiative or at the bidding of a Minister, to forcibly feed the man? Yes. Then the prisoner must be allowed to commit deliberate suicide—a thing unthinkable in a civilized community; or he must be given his freedom—a proceeding which would tend to defeat the ends of justice, not only in this particular case but, by means of the example it furnished, in all cases.

Or would Sir Victor Horsley forcibly feed the prisoner? If he followed this course, then on what grounds would he refuse to feed a prisoner who was a suffragette? Does he suggest that medical officers of prisons, paid public officials as I say, should allow their sympathy, or lack of sympathy, with this or that legal offence to influence their conduct towards their charges?—I am, etc.,

Southsea, Jan. 10th. G. ARCHDALL REID.

FORCIBLE FEEDING.

SIR,—I am obliged for the opportunity which you afford me of briefly replying to Dr. Kirby's last letter.

He wonders if I have ever experienced the passing of the œsophageal tube on myself. The ordinary operation of stomach lavage, so frequently performed by patients on themselves, is carried out in precisely the same manner with the same form of tube, and I have seen patients of my own do it; it therefore did not occur to me to try it on myself. In order, however, that I might experience the sensation of the nasal tube, less commonly used in general practice, Dr. Helby, at my request, while the suffragettes were in prison, fed me by this means. I did not find the process painful, though certainly it was unpleasant.

I am glad now to see that Dr. Kirby does not attribute the stomatitis, which he found at the back of the upper incisor teeth, to the irritation of the pharynx by the nasal tube. But the two things were placed rather in conjunction in his first letter. Also, at the trial Mrs. Leigh's counsel asked me whether, presuming the existence of the two conditions, the stomatitis would not be caused by the spreading of inflammation from the throat to the mouth.

Dr. Kirby accuses me of disingenuousness in not referring to Miss Burkitt's third hunger strike. There was no third hunger strike. Her second and last one terminated over a fortnight before her discharge, and this prisoner was not fed by a tube. Therefore her case does not affect the question of feeding by these means. That she was in good health on release I showed in my last letter.

Referring to Dr. Kirby's last point: I am still of opinion that it is unlikely that any abrasion worthy of being called "considerable" could be produced without drawing some

blood and causing some pain. Miss Martin definitely and frankly stated to the consulting surgeon (a copy of whose report I have by me), who was called in to examine the suffragettes before their release, that she had received no injury whatever. It was not merely a case of not complaining or of not desiring medical attention.—I am, etc.,

Birmingham, Jan. 11th. WILLIAM CASSELS.

PART-TIME MEDICAL OFFICERS OF HEALTH.

SIR,—I am glad to find that an important matter that I alluded to in your columns a short time ago is receiving attention. During the last fortnight five of your correspondents have become conscious of the jeopardy in which part-time medical officers of health are likely to find themselves in the event of the recommendations of the Royal Commissioners on the Poor Laws being carried out. As I said, it is not only the interests of Poor Law medical officers that are at stake, but those of all part-time officers in every branch of the public service, and the latter would be wise in assisting the Poor Law Medical Service in opposing, as far as possible, the medical recommendations both of the Majority and Minority Commissioners.

Dr. Wales appears to be incredulous as to the "interests of the public health" requiring the extinction of part-timers, and I cannot help thinking that his incredulity will be shared by all who do not regard the interests of the public health—like Mrs. Hodgkinson—as identical with the socialization of medicine. I quite agree with Dr. Marsh that all part-timers should organize themselves, and the sooner the better, so that in event of not being supported, as they have a right to expect, by the proper organization of their profession, they will not be left defenceless.

It is not just to blame the British Medical Association at the present time. An important committee has been appointed to consider the whole matter. When it reports, and the Association finally formulates its policy, we shall then, and then only, discover whether there is ground for complaint.—I am, etc,

MAJOR GREENWOOD,
Honorary Secretary, Poor Law Medical Officers' Association of England and Wales.

London, Jan. 8th.

PUBLIC MEDICAL SERVICE IN FULHAM.

SIR,—A public medical service under the auspices of the Chelsea Division of the British Medical Association has been established in Fulham.[1] It commenced its work proper on December 1st, and judging from the members that have joined the service, I am confident its success is assured. There was evidently a need for an organization of the kind in this district, and all that is required now to make its success doubly assured is for more practitioners to join the staff. Many, I know, have hitherto kept aloof through diffidence as to its success, and I would remind these gentlemen that an opportunity presents itself at the present time for them to reconsider their position, as by the rules of the service new members may join in January and July. Any names sent to me I shall be pleased to bring before the next meeting of the committee. If the medical service is only accorded a due amount of support by the local profession, I feel sure there is a great future before it in this district.—I am, etc.,

JAMES YOUNG,
Honorary Secretary,
Member Chelsea Division, British Medical Association.

London, S.W., Jan. 11th.

MEDICAL BRANCH OF THE NAVY LEAGUE.

SIR,—It has been hoped that by the formation of a Medical Branch of the Navy League valuable information may be disseminated with regard to the condition of our fleet and of the fleets of other nations. The maintenance of the naval supremacy of our empire is of vital importance, for upon it depend trade and, indeed, national existence. A neighbouring Power has in terms declared that she "must have a fleet of such a strength that even for the mightiest naval Power, a war with her would involve such risks as to jeopardize its own supremacy," and to call attention to the enormous demands which war would make upon our navy, and to such measures as may be requisite to secure adequate preparation for the maritime defence of the empire is the general aim of the Navy League. The Medical Branch hopes to recruit large numbers of the profession who, conversant with the acutely serious condition of affairs, will take every opportunity of bringing the aims of the league before other other members of the profession, and so far as lies in their power of persuading members of the general public that the time is not far off when our national position will be challenged, and that it is even now the duty of every citizen to see to it that when the day of trial comes our navy is adequate to the occasion. The Medical Branch of the Navy League is under no delusion that there is any time to be lost, and with all earnestness it asks those whom it addresses at least carefully to look into the matter.

As regards the moneys received by the Branch, half of the amount is paid over to the Navy League Central Office and the remaining half is available for purposes, such as circulating pamphlets, literature, etc., as the Medical Branch may from time to time determine.—I am, etc.,

MAURICE CRAIG,
Honorary Secretary Medical Branch Navy League.

London, W., Jan. 11th.

THE PREPARATION OF CATGUT.

SIR,—I have read carefully Dr. C. Yelverton Pearson's contribution to the JOURNAL of December 25th, 1909, and admire the pains he has been at to produce a satisfactory iodine catgut: but I cannot see where it is more satisfactory than the sulpho-chromic catgut prepared according to the directions so minutely laid down by Lord Lister in the BRITISH MEDICAL JOURNAL of January 18th, 1908. Catgut so prepared I have used since Lord Lister's publication. Of course, I have prepared it myself; I have used it for intestinal work and for both buried and superficial sutures, and fail to see that anything better can be used.—I am, etc,

Chester, Jan. 3rd. JAMES TAYLOR.

PULMONARY TUBERCULOSIS TREATED BY CONTINUOUS ANTISEPTIC INHALATION.

SIR,—A case which I have recently been treating goes far to exemplify the great improvement which follows the treatment recommended in Dr. Lees's interesting paper on the continuous inhalation treatment of phthisis.[1] I was called to Mrs. H, aged 28, married, on November 14th 1909. I found her very ill indeed, in bed, with a temperature over 103°, pulse about 100, and dyspnoea. For six months previously she had been paying a weekly visit to St. Mary's Hospital for inoculation. This treatment was evidently not doing her good; in fact, she was rapidly going downhill. Such is the evidence of her husband and relatives. I at once put her on the continuous inhalation treatment according to the details prescribed in Dr. Lees's paper. In a few days the temperature came down to 101°, and the patient showed other signs of improvement. For three weeks now the temperature, morning and evening has been normal, the expectoration is much diminished, there is very little cough. The patient gets up daily, her appetite is good, and she looks wonderfully better. Her relations and friends are astonished at the improvement. In November, 1909, she seemed *in extremis*. At Christmas she was able to join the family gathering. I have not had the opportunity of weighing her, but I have no doubt she has put on weight. I do not claim that she is yet cured of her tuberculosis. The signs are still there, but they are diminishing.—I am, etc,

J. ASHTON, M.B.Lond., M.R.C.S.

London, S.W., Jan. 1st.

SIR,—I have read with great interest the valuable paper on this subject which appeared in the JOURNAL of December 11th, 1909.

For several years I had the honour of being associated with Dr. Lees in work in the medical wards of St. Mary's Hospital, and had numerous opportunities of practising the methods of physical examination of the lungs which Dr. Lees has so clearly described, and which he claims are of the first importance in making an early diagnosis in incipient pulmonary tuberculosis.

[1] BRITISH MEDICAL JOURNAL, December 11th, 1909, p. 1659.

I can from my own experience fully endorse every word that Dr. Lees has written as regards the value of a careful physical examination of the lungs in making an early diagnosis of pulmonary tuberculosis. I believe that by this method the disease can be detected, in many cases before the appearance of tubercle bacilli in the sputum, and before in many cases there are any obvious signs, from an examination by the *x* rays.

A very valuable confirmation of the diagnosis based on these physical signs can, as Dr. Lees says, be obtained by taking a series of opsonic indices of the blood to the tubercle bacillus. This is best done by taking the blood before breathing exercises, and every six hours afterwards for twenty-four hours, when a marked deviation from the normal will be caused by the autoinoculation produced if an active lesion is present. It is obvious that a physical examination of the lungs is more quickly made than the series of opsonic tests, and it is not always possible for the opsonic tests to be carried out in the examination of a large number of hospital patients owing to the great amount of labour entailed; also in the case of private patients expense is an important consideration.

For clinical purposes a very careful physical examination of the lungs by the methods described in Dr. Lees's paper should, in my opinion, be always adopted as the first method of diagnosis of incipient pulmonary tuberculosis.

If the physical signs are slight only, or if there is a doubt as to whether these signs are due to an active or to an old healed lesion, then the opsonic test is of great value and should be employed.

I had the opportunity of observing the effects of the continuous antiseptic inhalations in several of Dr. Lees's cases, and can fully confirm all that he writes as regards the improvement made under the treatment. I have used this method of treatment in a considerable number of cases at my out-patient department at St. Mary's Hospital, London, and at the out-patient department of the Great Northern Central Hospital. Many of these cases have shown improvement similar to that which occurred in the cases Dr. Lees has quoted so fully.

In my opinion the method of treatment advocated by Dr. Lees is worthy of extended use.—I am, etc.,

3 London, W., Dec. 21st, 1909. W. H. WILLCOX.

WOMEN'S LAVATORIES AT RAILWAY STATIONS.

SIR,—It is to be hoped that effect will be given to the excellent suggestion made in your editorial note on railway station lavatories, that women's lavatories should be provided with a double set of conveniences, distinguishing, as is done in the case of men, between the needs of micturition and of defaecation. Many ladies who visit public lavatories for the former purpose are already accustomed to adopt the erect attitude, in order to avoid any approach of the person or garments to suspicious seats; but this sensible method is not favoured by the old-fashioned box-seat. It should be easy, as you suggest, to provide conveniences for women for this purpose, not very unlike those provided for men, and free of charge. For women who find this method inconvenient there would remain, as at present, the ordinary cabinets available on payment.

Apart from the fact that an arrangement of this kind, by saving time, would be a boon to women who are in nervous haste to catch a train, it is very unjust that women, who are usually less able to afford it, should be called upon to pay a tax which is never (since the days of Vespasian) demanded from men. All the tendencies of our civilization are in the direction of giving the same rights and privileges to women as to men; in this department, at all events, no one can grudge women their claim to equality of opportunity.—I am, etc.,

January 10th. H. H. E.

ABDOMINAL EMERGENCIES.

SIR,—I do not think that the annotation on "Abdominal Emergencies" in to-day's JOURNAL should pass unchallenged.

You refer to "the opinion held by most surgeons that until some diagnosis has been made morphine should be withheld, whatever the distress of the patient, in sudden attacks of abdominal pain of such severity as to lead to the hasty summoning of medical assistance." My experience is that this is mere theory, and that the practice of most surgeons is to give morphine. I will go further and say that an initial dose of morphine hypodermically with a hot-water enema will facilitate diagnosis by clearing the ground of such causes as ordinary colic, which may, of course, be a symptom of serious import, or may be only trivial, though alarming enough to the patient and friends.

Surely a hypodermic of morphine $\frac{1}{4}$ grain, while curing a simple colic, will not narcotize the patient sufficiently to mask serious symptoms.

An initial dose of morphine facilitates diagnosis in a further way by putting the patient in such a condition of ease that he can give a clear history of his case and allow an abdominal examination. How much of either can be expected when the patient writhes with pain? Let us be practical.

The point that should be insisted on—and here is the crux of the situation—is that morphine should under no condition be given in repeated doses. If an initial small dose does not alleviate, then it is criminal to blindly pour in morphine, which may only mean euthanasia, and is a sign of a mind either lacking in judgement or information.—I am, etc.,

Oldham, Jan. 8th. W. DUNCAN LAWRIE, M.D.

THE UNIFORM SYSTEM OF HOSPITAL ACCOUNTS.

SIR,—In your issue of January 8th, p. 110, in referring to the uniform system of hospital accounts and the notes on the bookkeeping accompanying the revised index of classificature lately issued by the three Metropolitan Hospital Funds, you mention an extract from my original report, which appears therein, as authorizing hospital secretaries, should the cost of repairs and renewals, when carried out, involve "much heavier expenditure than they care to see figuring in their annual statements," to treat a portion thereof as capital expenditure on land, buildings, and equipment.

I do not think the extract referred to is capable of the interpretation you put upon it.

The expenditure to which the extract refers is stated to be that "which includes necessary outlay on repairs and renewals together with *the cost of additions and other manifest improvements to the property*.

The words in italics should make it clear that my intention was not to point out a method by which a hospital secretary could relieve his accounts of inconveniently heavy expenditure; if you will kindly read the extract again, you will find that its purport is to enjoin on secretaries the necessity for a careful consideration of expenditure before it is incurred, and it requires proof of the value of any work of a capital character and the sanction of the governing body before any charge should be made against the account of land, buildings, and equipment of the hospital.

You will much oblige me by finding space for this letter in your valuable JOURNAL.—I am, etc.,

London, W., Jan. 12th. JOHN G. GRIFFITHS.

MISCONCEPTIONS CONCERNING THE RIVIERA.

SIR,—May I ask of your kindness and sense of justice the insertion in the BRITISH MEDICAL JOURNAL of the accompanying letter, addressed to Dr. Samways by the Syndicat des Hoteliers de Menton?

As you will see, it is in answer to a statement contained in a paper read by Dr. Samways at the annual meeting of the British Medical Association at Belfast in July last, and published by you on September 25th, 1909, that the impression that consumptives were no longer welcome in Mentone was a misconception.

For nearly twenty years now the reputation acquired previously by Mentone as a consumptive resort is unjustified, and the hotel keepers attribute the much increased prosperity of the town to the announcement made by them some eight years ago that consumptives could not be received by them.

As Dr. Samways admits, there are probably fewer cases of this illness in Mentone than in any winter resort—on the Riviera or elsewhere—and we view with alarm any step made that would tend to revive the impression that Mentone lends itself to consumptive invalids and the

prejudice created in the minds of other invalids and their medical advisers on that account.

I have authority for stating that Dr. Samways's views on this question are not shared by the other English doctors.—I am, etc.,

CH. DURINGER,
Secrétaire du Syndicat.

January 1st.

[Copy.]

17th December, 1909.

Dr. Samways,
Villa Flavie,
Avenue Boyer,
Mentone.

Dear Sir,

The Members of the Syndicate of Mentone Hotelkeepers (to which all the hotels belong), upon being acquainted at their meeting to-day with the paper read by you at the Medical Congress of Belfast this summer, resolved unanimously:

"To inform Dr. Samways (while thanking him for his praise of the climate, etc., of Mentone, and acknowledging the excellence of his intentions), that they emphatically protest against his statement that tuberculous patients are not unwelcome in this town.

"They admit that it is outside their competence to discuss the contagiousness of tubercular complaints, but (whatever Dr. Samways' opinion may be) they know that the affirmative is now generally accepted by the public, and, that being so, they cannot knowingly receive any persons suffering from this sad illness, so distressing to all who surround them.

"They can only judge, of course, of apparent cases, and they beg Dr. Samways not to recommend to their hotels any visitors he knows to be suffering from phthisis, as he states he can so easily do.

"For years such cases have been extremely rare in Mentone, and the fact being that to receive phthisical invalids would entail the loss of their *clientèle*, they have no alternative but to refuse them.

"Their sincerity in this declaration cannot be affected by the case or two of some years back referred to by Dr. Samways.

"As Dr. Samways is no doubt aware, in two Mentone institutions which depend partly upon outside support (St. John's Home of Rest for Clergymen and the Villa Helvetia) consumptives are no longer received; and the Gorbio Sanatorium, constructed expressly for the treatment of this disease, now advertises widely to the same effect.

"They quite admit that they have a past—although now remote—and it is just this that makes them peculiarly sensitive and anxious that there should be no misconception. Consumptives are absolutely unwelcome in Mentone hotels, and are refused, if known to be such."

I beg to remain, dear Sir,
Yours faithfully,
CH. DURINGER,
Secrétaire du Syndicat.

THE EAST AFRICAN MEDICAL STAFF.

SIR,—There is no doubt the West African Medical Staff have had much cause for discontent; let us hope the recommendations of the Select Committee will receive his Lordship's approval at an early date. However, very little mention has been made of the East African Medical Staff (including Uganda, B.C.A., and Somaliland), though the medical officers suffer from precisely the same disadvantages, and the risks to life being just as great, the pay of the senior medical officers is quite inadequate and the prospects are nil. Now is the time to encourage the good men they have in their service to continue by bettering their position and prospects. As things are at present a medical officer of ten or twelve years' service finds himself junior to administrative officers of four years' standing, who does or does not carry out the medical officer's recommendations just as he thinks fit—a state of affairs which is obviously a source of danger to the general public in so notoriously an unhealthy climate.

That a medical officer can be retired after ten years on a small gratuity is simply absurd: either a man has been discovered to be inefficient years before (and should have been dismissed), or he must have accumulated experience which is very valuable to individuals and the Government. The scale of pension requires revision.—I am, etc.,

December 1st, 1909. OBSERVER.

THE new session of lectures at the Hospital for Sick Children, Great Ormond Street, W.C., commenced on Thursday last, when Dr. Garrod gave a demonstration on selected cases in the medical wards. On Thursday, January 20th, Mr. Corner will lecture on appendicitis and its treatment in children. The lectures and demonstrations are given every Thursday, at 4 p.m., and are free to all qualified practitioners.

Medico-Legal.

PRESCRIBING FOR PATIENTS WITHOUT SEEING THEM.

AT an inquest with regard to the death of a married woman, aged 41, held in Dublin on December 31st, 1909, the practice of prescribing for patients without seeing them was discussed, and adversely commented on by the city coroner. The facts of the case are as follows: On the night of December 28th the husband of the deceased woman went to a doctor's house and described his wife's symptoms, stating that she had complained of pains in her stomach since Christmas Day. He stated that at the same time he asked the doctor to come and see his wife, but that the doctor thought it unnecessary to do so, and gave a bottle of medicine, with the direction that if the patient did not improve the husband was to return and inform him of the fact. The doctor asserted that he was only asked to prescribe, and was not asked to visit the patient. The mixture, the husband stated, gave relief, and therefore he did not return, but on the next morning, December 29th, went to his own dispensary doctor, and again described his wife's symptoms in detail. These symptoms the husband did not regard as urgent at the time. The dispensary doctor regarded the case as one of indigestion and prescribed treatment suitable for that ailment. He also told the husband to come back if the medicine did not relieve the patient. During the night of December 29th the patient apparently remained ill, but was no worse when the husband went out to his work at 8 a.m. on December 30th. She was also sufficiently well on that morning to converse with a little girl, who had come in to clean up the room, and to send her out to purchase some milk. Later on, after the girl had cleaned the room, she spoke to the patient, but got no response, and a few moments later it was found that the patient had died. At the *post-mortem* examination death was found to be the result of haemorrhage from a ruptured thoracic aneurysm. The coroner stated that the whole point of the inquiry and the only reason for holding it was that the man went to a doctor when his wife complained, and that the doctor gave her medicine without seeing her. He added that the medicine given was of no use to the patient, and that the description of symptoms by a workman could not be relied on. The jury returned a verdict in accordance with the medical evidence, and added that they disapproved of medicine being given without seeing the patient.

UNREGISTERED DENTIST.

PROVINCIAL.—The General Medical Council has no jurisdiction over persons not upon the *Dentists' Register*. A prosecution might lie on the ground that the use of the plate implies a personation of a deceased practitioner. Our correspondent might communicate with the Secretary of the British Dental Association, 19, Hanover Square, London, W.

PARTNER'S MOTOR CAR.

H. E. J. writes: A. and B. are senior and junior partners respectively, each having a half share of the practice. A. uses a motor car, and B. a bicycle. Should B. pay half the upkeep of the motor car?

*** It is usual in partnership agreements to specify how the driving expenses of the firm are to be shared. A not uncommon arrangement is for each partner to pay the expenses of his own stable, or garage. If there is no clause regulating this point, and if the motor car is only used for doing the business of the firm, it would have to be reckoned among the other expenses, and paid for by the partners in accordance with their shares in the business.

Contract Practice.

ALLEO.—We are asked to state whether any of the following proposals are illegal, unethical, or otherwise objectionable: (1) To contract to attend a family in all ordinary sickness for a fixed fee per annum. (2) Commuting the above for a fixed amount of groceries a week in a case where there is some uncertainty as to the payment of the cash. (3) Undertaking to give whatever advice or treatment (except instruments or operations) is necessary for a definite disease—for example, a child's hip-joint which is diseased—for a fixed fee for a fixed period—for example, £10 10s. for five years or any other sum or period.

*** (1) The proposed plan is, we believe, not unusual, and there is no obvious objection to it. (2) This may be looked upon as merely a matter of cross accounts. (3) It would be undesirable to make a contract such as suggested for a longer period than a year, in view of the uncertainty of life and other contingencies.

MR. ALEXANDER MILES, F.R.C.S.E., on his promotion to the full rank of Surgeon to the Edinburgh Royal Infirmary, has taken over the charge of the wards allocated to the Junior Surgeon.

The Services.

TERRITORIAL FORCE.

Examinations for Promotion.

CAPTAIN WM. A. WOODSIDE, R.A.M.C. (Adjutant, School of Instruction, R.A.M.C.(T.), East Anglian Division) writes: Lieutenants, Royal Army Medical Corps (Territorial Force), who wish to qualify for promotion to captain to enable them to retain their outfit grant (£20), are reminded that the necessary examination must be passed within three years of their first appointment.

Full particulars regarding this examination are contained in the amendments to the Territorial Force Regulations, issued with Army Orders, August 1st, 1909, which can be obtained from Messrs. Wyman and Sons, Limited, Fetter Lane, London, E.C., price 1d.

Second London Division.

We are informed that there are still some vacancies for regimental medical officers in the Second London Division. Particulars can be obtained from the Administrative Medical Officer of the Division, Craig's Court House, Charing Cross.

Public Health AND POOR LAW MEDICAL SERVICES.

SECURITY OF TENURE FOR MEDICAL OFFICERS OF HEALTH.

A CORRESPONDENT writes to express the opinion that it might not be altogether satisfactory to give security of tenure of office to all medical officers of health, for instances might arise in which a medical officer of health, by reason of his great age, should, in the public interest, retire from office. In such a case, if purely from sentimental reasons, the local sanitary authority continues to re-elect the medical officer year by year, and he consents to hold office, the public interests might suffer.

*** We do not think this is a very strong argument against the abolition of lapsing appointments, though it supports very forcibly indeed the contention of medical officers of health that they should be included in a scheme of superannuation. What medical officers of health desire is that they should hold office on the same terms as Poor Law district medical officers. Article 2 of the Order of May 25th, 1857, prescribes that where a Poor Law district medical officer resides within his own district "he shall hold his office until he shall die, or resign, or be proved to be insane . . . or become legally disqualified to hold such office, or be removed by the said (Poor Law, now the Local Government) Board. . . ." If medical officers of health were appointed on the same terms the Local Government Board would have the power, which it does not now possess, of removing a medical officer of health from office even though the local sanitary authority desired to retain his services.

Obituary.

GEORGE MORTON WILSON, M.B., C.M.EDIN.,

PENDYFFRYN SANATORIUM, NORTH WALES.

BY the death of Dr. George Morton Wilson, on January 6th, the medical profession has lost a pioneer of the open-air treatment of tuberculosis. His sanatorium, opened about ten years ago, was one of the first three sanatoriums for Nordrach treatment in England.

Dr. Wilson graduated at Edinburgh in 1893, and after a voyage as ship surgeon in the Orient Line, and one or two hospital appointments, he started practice in the North-West of London. In 1898, signs of pulmonary tuberculosis manifested themselves, and after undergoing a course of treatment at Nordrach, he gave up general practice, and in 1900 opened, at Penmaenmawr, the sanatorium known as Nordrach-in-Wales. For some time his health appeared completely established; but a few years ago there were signs of recrudescence of the disease, and his health began gradually to fail. For the last year he worked under great difficulties, with indomitable courage and fortitude. Gifted with a pleasant personality and endowed with patience, firmness, and tact, he supervised every detail of sanatorium treatment with whole-hearted devotion, and gained not only the confidence but also the affection of his patients, who will mourn him now both as doctor and friend. Dr. Wilson was married, and leaves a widow, a son, and daughter.

JOHN HOLMES JOY, M.A., M.D.DUBL.,

CORONER FOR EAST STAFFORDSHIRE..

WE regret to record the death of Dr. John Holmes Joy, Coroner for East Staffordshire, which occurred on January 4th, at his residence at Tamworth. Dr. Joy, who was 67 years of age, had been in indifferent health for some time.

John Holmes Joy, who was born in Dublin on February 28th, 1842, was the youngest son of the late Henry Holmes Joy, Q.C., LL.D. of Dublin and Belfast, grandson of the late Serjeant Ludlow, Recorder of Bristol, and grand-nephew of Chief Baron Joy, of the Court of Exchequer in Ireland. He was educated at Trinity College, Dublin, and graduated M.A., M.D., M.Ch. in 1865. He took also the diploma of L.M. Rotunda Hospital, Dublin.

Soon afterwards he went to Chili as ship's surgeon, took out medical diplomas in Spanish, and acquired a large practice in Valparaiso, where in 1868 he married Anita, daughter of Dr. John McKay and Mrs. McKay of that town, and formerly of Fortwilliam, Invernessshire.

He returned to England in 1873, and succeeded the late Dr. J. F. Woody in practice at Tamworth, where he remained till his death.

In 1883 he was made a Justice of the Peace for the counties of Stafford and Warwick. He was President of the Midland Medical Society in 1885 and 1886; and of the Birmingham and Midland Counties Branch of the British Medical Association in 1892.

He was Certifying Factory Surgeon for the Tamworth District and Medical Officer to the Tamworth Post Office, resigning the first-named appointment in 1903, and the second in 1907. He was District Surgeon to the London and North-Western Railway Company, and Medical Referee for No. 21 County Court District under the Workmen's Compensation Act. He was one of the Honorary Medical Staff of the Tamworth Hospital, Surgeon to the Foresters, and medical attendant to the inmates of Guy's Almshouses. On February 22nd, 1898, he was appointed Coroner for East Staffordshire; the duties of this appointment, which he held till his death, he discharged in a most careful and conscientious manner. For some time he served on the council of the Coroners' Society.

As a representative of the Staffordshire County Council on the governing body of the Tamworth Grammar School from 1899 to 1908, he showed a keen interest in the foundation. He was instrumental in securing the restoration of the ancient Spital, or St. James's Chapel.

He was a Past-Master of the Marmion Lodge of Freemasons at Tamworth, and a member of the Alma Mater Lodge at Birmingham.

The funeral, which took place on January 8th at Tamworth, was attended by a large number of friends.

MR. ARTHUR KINGSLAND died suddenly of cerebral haemorrhage in his house at Small Heath, Birmingham, on December 26th. He was born at Milton-on-Sea, Hampshire, fifty-one years ago, but after his father's death the family removed to Birmingham, and Mr. Kingsland received his medical education at the Queen's College in that city. He took the diploma of the M.R.C.S.Eng. in 1880, and established himself in practice at Small Heath, where he was very well known and widely respected, being greatly beloved by the poor for his unostentatious benevolence. He was a member of the Central Division of the British Medical Association.

WE regret to announce the death of Dr. JULIUS NICOLAYSEN, for many years the foremost surgeon in Norway. He was the first to perform ovariotomy and resection of the intestine in that country. Professor Nicolaysen, who was born at Bergen in 1831, studied and graduated at Christiania in 1856. He was appointed Medical Superintendent of the Herring Fishery, and afterwards was on the staff of the State Hospital, Christiania. He was also Professor of Surgery in the University of Christiania. He was for some time co-editor of the *Norwegian Medical Magazine*, in which most of his writings, which were mainly on surgical subjects, appeared.

Universities and Colleges.

UNIVERSITY OF BRISTOL.

Provisional Ordinances.

ORDINANCES and regulations for the degrees of the university having been approved in substance by the Council have been issued provisionally pending the approval of the General Court.

In the Faculty of Arts they provide for three degrees, B.A. (pass and honours), M.A., and D.Litt., and also a diploma in education. The B.A. curriculum provides an alternative course for theological students.

In the Faculty of Science there are three degrees, B.Sc., M.Sc., and D.Sc.; also a B.Sc. for research. There is a Faculty of Engineering, the degrees granted being the same in title as those in the Faculty of Science. Arrangements are also made for the granting of certificates in various departments of the same subject.

In the Faculty of Medicine there are the four ordinary degrees, M.B. and Ch.B., M.D. and Ch.M.; also two degrees in dental surgery (B.D.S. and M.D.S.), and diplomas in public health and veterinary State medicine. For the M.B., Ch.B. there are three examinations, the curriculum extending to five and a half years.

The first examination is the same as the intermediate examination in the Faculty of Science; the second deals with organic chemistry, anatomy, and physiology; the third with the ordinary subjects of final examinations, including materia medica and pharmacology.

A candidate for the final M.B., Ch.B, must have acted as a gynaecological clerk for at least three months, and have attended either at least 25 cases of labour in the wards of a lying-in hospital, or not less than 30 such cases in the extern department of some approved hospital. He must also have attended a course of lectures on anaesthetics, and have administered anaesthetics in not less than 30 cases.

The M.D. degree can be obtained either in General or in State Medicine, at the option of the candidate.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

Barker Anatomical Prize.

IT is announced that the Barker Anatomical Prize for the year 1910 is to be awarded for a dissection of the cervical sympathetic. The prize, which is of the value of £21, is open for competition to any student whose name is on the anatomical class list of any school in the United Kingdom. The preparations entered must be marked with a fictitious signature, and must be placed in charge of the Curator of the Museums of the Royal College of Surgeons in Ireland, on or before April 30th, 1910. By the will of the late Dr. Barker, the founder of the prize, the judges of the dissections are the Curator of the Royal College of Surgeons in Ireland for the time being, the President of the College, and the Professor of Anatomy of the University of Dublin.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved at the examinations indicated:

BIOLOGY.—C. A. Hepburn.
CHEMISTRY.—H. P. Jelley.
MATERIA MEDICA AND PHARMACY.—K. L. Hart-Davis, H. P. Jelley, A. J. V. Mathews.
ANATOMY.—D. T. Corke, H. P. Jelley.
PHYSIOLOGY.—D. T. Corke, R. Fowle, H. P. Jelley.

THE fourth Congress of Experimental Psychology is to be held at Innsbruck from April 11th to the 22nd.

FOUR lectures on small-pox and vaccination will be given by Dr. F. M. Sandwith, Gresham professor of physic at the City of London School, Victoria Embankment, on January 18th and the three following days at 6 p.m.

THE annual ball in aid of the funds of the Royal Hampshire County Hospital was held in Winchester on January 4th, and was largely attended. It is anticipated that the hospital will benefit to the amount of at least £300.

A LECTURE on optic neuritis will be delivered at the Royal Eye Hospital, Southwark, by Dr. James Collier, on Thursday, January 20th, at 5.30 p.m. Gentlemen now or formerly connected with the hospital are invited to attend. Students desiring to join the classes at the hospital should communicate with Dr. H. Willoughby Lyle, Honorary Secretary.

SIR JAMES DEWAR, who has been experimenting for some years with the waters of the King's Spring at Bath, states that he has separated krypton and xenon from the gases given off by the hot mineral waters. These gases have also been discovered in the waters of Aix-les-Bains, Saint Honoré, and some other foreign springs by MM. Moureu and Lepage.

THE winter dinner of the West African Medical Staff will take place at the New Gaiety Restaurant on Wednesday, January 26th. Members of the Staff who have not yet received notice, and who desire to be present, are requested to communicate with Dr. Prout, C.M.G., 78, Rodney Street, Liverpool.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

BLOOD SMEARS WANTED.

A PHYSICIAN who is doing photomicrographic work in blood diseases would be grateful for blood smears of any pathological conditions, from mild simple anaemia to blood parasites. Address Haematologist, c.o. The Manager, BRITISH MEDICAL JOURNAL.

PRURITUS IN GLYCOSURIA.

NEMO asks for advice in the treatment of a lady suffering from intense pruritus vulvae induced by glycosuria. Dieting and locally ointments containing zinc, boric acid, cocaine, and morphine have all failed. The only relief, and that only temporary, is obtained from large doses of bromide internally, and an emulsion of olive oil and sodium bicarbonate, with cocaine locally—in fact, carron oil, substituting soda for lime water.

NEURALGIA IN EDENTULOUS GUMS.

G. D. asks for advice in the treatment of a middle-aged woman who has suffered severe pain in the gums since having her teeth extracted with some local anaesthetic a year ago. The pain is constant, with severe exacerbations, and its focus appears to be the area previously occupied by the left lower incisors. Nothing is to be seen or felt to account for it. All the more ordinary analgesics have been tried without effect.

DEATH BY ELECTRIC SHOCK.

F.H.S.A. (Hucknall-Torkard) asks to be referred to any recent work on the physiological causes of death by electric shock.

*** English literature on this subject consists mainly of scattered articles in various periodicals, but German is much more extensive. Perhaps the most useful work is a little book of less than 100 pages, entitled *Unfälle durch elektrische Starkstrome*, by Dr. Schumacher (Wiesbaden: J. F. Bergmann). This deals with the question very fully from the physiological point of view. More elaborate in character is Dr. J. S. Jellinek's *Atlas de Elektropathologie* (Berlin: Urban and Schwarzenberg). Some interesting details about electrocutions in America are given in *The Infliction of the Death Penalty by means of Electricity*, by Dr. C. F. MacDonald (New York and London: Appleton and Co.).

SUTURE OF TENDONS.

P. B. asks: What is the proper treatment of divided tendons in a workman's hand by a country practitioner? How long should it be dressed before being sent to hospital for suture, and how long after division is it possible to suture them successfully?

*** We are advised that it is desirable to attempt primary suture of the divided tendons if the practitioner can obtain the assistance of an anaesthetist and assistant. If such assistance is not available, the case may be sent to the nearest hospital under a temporary dressing. If the practitioner deems that the amount of damage is too great, or that the wound is too extensively infected for primary suture to be successful, he may be justified in continuing to dress it until healing has taken place, and then the operation for secondary suture may be tried even after the lapse of months. Whether or not the secondary suture is followed by good results will depend on many things, such as the extent of the original wound, the amount of infection, retraction of the cut ends, etc.

STATE-PROVIDED MEDICAL ATTENDANCE.

H. asks for "reference to an article or pamphlet dealing with State-provided medical attendance," etc.

*** We know of no pamphlet or article dealing with this subject as a whole or with anything but isolated points. There are pamphlets describing the French and German systems of State assisted sickness and invalidity insurance, summaries of which are given in the report of the Poor Law Commission. The German system was also described in the BRITISH MEDICAL JOURNAL, 1908, vol. i, p. 1523. A report on *An Investigation into the Economic Conditions of Contract Medical Practice in the United Kingdom*, prepared by the Medico-Political Committee is published by the British Medical Association, price 6d., (post free 8½d.), deals with the various forms of public medical service in this country. Perhaps the most general description of the present forms of Poor Law and charitable medical relief is given in the report of the Poor Law Commission. Part V of the Majority Report and Chap. 5 of the Minority Report describe not only Poor Law medical relief but all the various medical agencies existing in the kingdom.

ANSWERS.

HEALTH.—The purely Scottish Acts of Parliament required for the D.P.H. of the Scottish universities are—Public Health (Scotland) Act, 1897 (price 1s.), Burgh Police (Scotland) Act, 1892 (2s. 11d.), Burgh Police (Scotland) Act, 1903 (8d.), Local Government (Scotland) Act, 1894 (8d.), to be had from Messrs. Eyre and Spottiswoode, East Harding Street, London, E.C. The sums stated in brackets cover postage. But "Health" would be better advised to procure *Sanitary Laws of Scotland and Principles of Public Health*, by Dr. Brock (London: Oliver and Boyd). This gives all the sanitary law applicable to Scotland, with Local Government Board Orders, etc., in a very compact form.

POTAIN'S SPHYGMOMANOMETER..

H. E. K.—Potain's original paper—Du sphygmomanomètre et de la mesure de la pression artérielle chez l'homme a l'état normal et pathologique (*Archives de physiologie*, 1889, p. 556)—contains a description of the sphygmomanometer and the method of employing it. Two later papers—Détermination expérimentale de la valeur du sphygmomanomètre (*Archives de physiologie*, 1890, p. 300), and Faits nouveaux relatifs a la détermination expérimentale de la valeur du sphygmomanomètre (*Archives de physiologie*, 1901, p. 681)—deal with the experimental verification of the results obtained. Potain's book, *La pression artérielle de l'homme a l'état normal et pathologique* (Paris: Masson et Cie. 1902), gives a more exhaustive and up-to-date account of his methods.

LIME WATER IN THE TREATMENT OF VERRUCA PLANA.

DR. GEO. HENDERSON (Kirn, Argyllshire) writes: With reference to the communication of Dr. Dudley Kennard, F.R.C.S.E., on the treatment of verruca plana by lime water, I should like to state that some time ago (probably about two years) I read a letter by a medical man in the BRITISH MEDICAL JOURNAL in which he said that, whilst treating a patient for some other disorder with lime water, he had noticed that some warts had disappeared, and suggested that as a method of treatment. Since reading this letter I have many times tried this simple plan, and have never yet found it to fail. My doses were much smaller (a tablespoonful in milk thrice daily), and although the time taken for the disappearance of the warts was rather longer than in Dr. Kennard's case, I have no doubt that with his larger doses the cure may be effected in a shorter time.

"RECONSTRUCTED COCAINE."

DENTAL.—If "reconstructed cocaine" is cocaine at all, it cannot be non-toxic. Probably the following facts give the explanation of the name: Cocaine is accompanied in coca leaves by other alkaloids of greater toxicity, the principal ones being known as cinnamyl-cocaine and isatropyl-cocaine; when hydrolyzed, these yield as the principal product ecgonine, identical with what is given by cocaine itself; instead, therefore, of purifying the cocaine extracted from the drug, the whole of the alkaloids are hydrolyzed, and the ecgonine freed from the other products of hydrolysis which, not being basic, are easily removed. The ecgonine is then combined with methyl alcohol and benzoic acid in due proportions, by which means cocaine is produced or reconstructed; this is naturally less toxic than an impure cocaine. We do not know the firm named.

THE TUBERCULIN TEST.

A. R. P.—The "tuberculin test" consists in the introduction into the body of a suspected individual of the toxin of tuberculosis in order to judge by the occurrence or otherwise of a "reaction," whether or no the person is tuberculous. In a healthy individual the introduction of a small dose of tuberculous toxin produces no appreciable effect; when, however, a person is already infected with tuberculosis even a slight addition of the toxin may cause an appreciable disturbance—local or general. The evidences of this disturbance constitute the "reaction." There are various methods of employing the test.

1. *Subcutaneous Injection of Tuberculin* (Koch).—This produces a general reaction indicated by rise of body temperature and other symptoms; it may produce temporary or permanent increase in the activity of the local tuberculous lesion already existing.

2. *Von Pirquet's Skin Reaction.*—The tuberculin is applied on the surface of the skin, which is then lightly scarified. In the tuberculous individual a local inflammation occurs which is not produced in the healthy.

3. *Calmette's Ophthalmo-reaction.*—The tuberculin is dropped into the eye and produces a conjunctival inflammation in a tuberculous individual. The two latter methods produce a merely local reaction, and are therefore to be preferred to the first. The tuberculin reaction—which, like similar tests, is not absolutely conclusive—only indicates the presence of tuberculous infection; it does not show the seat of the lesion, which must be determined by ordinary clinical methods. In a case of tuberculosis of the lung, this could be ascertained by physical examination by an expert, who would in most cases be able to arrive at a diagnosis without the necessity for any tuberculin test. The presence of tubercle bacilli in the sputum marks a somewhat advanced condition of lung tuberculosis, since softening has in all probability already taken place. A diagnosis of pulmonary tuberculosis should be possible in most cases before bacilli could be found in the sputum. Cases of phthisis not infrequently go on for months with no expectoration.

A. R. P. is recommended to use "Calmette" if he wishes to employ the tuberculin test; it is simple, and the risk attending its use is probably less than with the other method. The material for the test can be obtained from any wholesale druggists. Messrs. Burroughs, Wellcome, and Co. send it out with a control liquid to be dropped into the opposite eye. The reaction produces some discomfort in the affected eye for a few days. It should not be used if there is any inflammatory disease of the eye. It would be well to warn the patient of possible disagreeable effects.

THE ORGANIC CAUSATION OF INSANITY.

"A PUZZLED DOCTOR."—Professor Lugaro, in the opening paragraph of Chapter II of his book on *Modern Problems in Psychiatry*, reviewed in the BRITISH MEDICAL JOURNAL, December 25th, 1909, p. 1803, writes as follows: "The mistaken opinion . . . that insanity is due especially to causes of a psychic nature, to prolonged overaction of the intellect and of the will, or to violent emotions, and that it may almost be considered as the ruin of a machine which has been forced beyond its capacity, was for a long time accepted without discussion even by alienists." In Chapter IV Professor Lugaro gives the two points of view from which the pathogenesis of psychic disturbances *must* be envisaged. "Firstly, it has relation to *the objective determinism of disturbances of the consciousness according to the laws of psycho-physical parallelism;* it is concerned therefore with the modification of cerebral processes in disease, with the connexion existing between psychopathic phenomena and functional disorders, and with the anatomical lesions of the cortical nerve elements. Secondly, it is concerned with the *genesis of cerebral lesions*, and consequently with all the objective mechanism, both cerebral and extracerebral, which connects these lesions with the morbid action in a more or less direct manner." These quotations show that for Professor Lugaro there are only two questions to be considered in the pathogeny of mental diseases: First, the connexions between mental symptoms and cerebral disease or disorder; and secondly, the causes of cerebral disease or disorder, which latter are, he says, "the immediate and necessary factors of the psychic disturbance." In discussing the question whether psychic causes can produce a morbid state—it being remembered that Professor Lugaro necessarily assumes that psychic causes can act, if at all, only by first of all producing disturbances of the bodily organism—Professor Lugaro treats first of exhaustion and fatigue. Here he said "it is very improbable, however, that a simple excess of functional activity in an organ which is anatomically normal and whose metabolism is carried on in a normal manner, can produce a normal state," and speaking of psychic causes in the genesis of insanity, he says that the importance attached to them "becomes restricted, and is, in fact, much diminished if not altogether dissipated, when an attempt is made to explain the mechanism of their action." Even of the emotions, after admitting their depressing effects and the probability of their determining autointoxication through disturbances of nutrition, he says, "but we do not meet with, nor is it possible to imagine, any fixed specific relation between the emotions, no matter how protracted, and some special form of mental disease." Of these cases, in which the insanity follows immediately on an intense psychic impression, he says that "this occurs for the most part in individuals who are the subjects of a grave predisposition, who possess in a latent state the organic conditions favourable to an outbreak of insanity, and the psychic impression acts merely as a violent stimulus which discloses the defect and determines the initial disturbance of the equilibrium of the functions," and later, "But in any case we cannot regard the external psychic stimulus as the cause of the disease; we must admit that this depends on an internal, unknown, but organic anomaly." In reply to our correspondent's further question as to the causation of this "internal, unknown, but organic anomaly," it may be said that by external agents Professor Lugaro does not mean simply such agents as alcohol, syphilis, etc., but external agents of whatever inimical kind acting directly on the patient's organization or on those of his progenitors during development. That is, for Professor Lugaro the mechanism of hereditary transmission consists in the tendency "to transmit unaltered the products of biological experience and the adaptations which have been acquired throughout the whole of the evolution of life." Hence a morbid or neuropathic heredity does not—according to Professor Lugaro—involve an inescapable doom, but may be counteracted or annulled in precisely the same way that it was originally brought about—by the external agent.

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